

Institution: University of East Anglia
Unit of Assessment: 23 (Education)
<p>1. Unit context and structure, research and impact strategy</p> <p>Research in education at UEA is primarily based in the School of Education and Lifelong Learning (EDU). Through multidisciplinary collaborations with external communities and partners, and across disciplines at UEA, our research looks beyond established boundaries to include training across professions, education leadership, cultural studies, communication, and the sociology of knowledge production.</p> <p>We hold the prestigious UNESCO Chair Programme in Adult Literacy and Learning for Social Transformation, commenced in 2016 and renewed to 2024, leading an ambitious programme of interdisciplinary research, capacity-strengthening and policy development initiatives. EDU has additional strengths advancing practice, theory and methods for researching youth identities and engagement with social media, academic discourse and literacies in higher education, universities and their relationships with their localities, language and literature education, and mathematics education.</p> <p>Our research aims to contribute to social justice and education for all by improving learning, teaching, assessment and teacher development in the UK and internationally; contributing to mitigating educational inequalities; informing better international assessments of learning across phases and disciplines; and securing depth of impact in local communities through participatory and arts-based research. We have received funding for our work from numerous international, governmental and charitable bodies. We integrate our home and international PGR cohorts in a strong and supportive research culture.</p> <p><i>Unit development</i></p> <p>Our plan across the REF2014-21 cycle centred on values of excellence, social justice and partnership, realised through ‘research of international quality and significance directed at positive social changes and the enhancement of learning and teaching at all levels’. Our research strives ‘to make a difference; to provide high quality learning and teaching, to develop critical reasoning and employability; and to put enterprise and engagement, locally and globally, at the heart of our mission’ (School plan, 2014-21). Our research is organised around three thematic domains:</p> <ol style="list-style-type: none"> 1) International Education and Social Change (IESC); 2) Lifelong Learning Cultures (LLC); 3) Pedagogy, Curriculum and Professional Learning (PCPL). <p>Our research enhances learning cultures in formal and informal settings; improves learning through pedagogical innovation; and leads to changes in policy, in institutions and in individuals’ practice. Via IESC, we address global education issues, including higher education policy and practice, contributing to understanding relationships between improved literacy, gender equality, sustainable livelihoods and wellbeing. Via LLC, we work internationally to understand changing patterns in learning communities relative to social, political and digital developments. Via PCPL, we advance teaching and learning across subject disciplines and education phases. Each domain contributes to understanding and facilitating social justice, adopting and innovating in qualitative, quantitative and mixed research methods.</p> <p>Our research demonstrates international policy and practitioner engagement (e.g. UNESCO Chair Programme; Maddox ICS), depth of impact for national practitioner communities (e.g. Haydn ICS) and collaboration with regional communities and schools (e.g. participatory arts-based research project: ‘Akenfield Now’). In UEA, we increasingly collaborate with other faculties (Arts and Humanities; Medicine and Health Sciences; Science), joining their Schools for</p>

interdisciplinary research and grant applications. The UNESCO Chair advances conceptualisation of literacy as a social practice across disciplines and sectors, challenging dominant paradigms in international education policy, particularly around the relationship between gender, literacy and sustainable development.

Research structure, research and impact strategy

Our domains organise varied and overlapping research activity in 6 research groups, maximising capacity and flexibility. Domains seek and achieve research impacts for common beneficiaries and develop research methods for their respective research communities, often collaboratively. Each domain hosts 2 research groups. These afford in-group specialism, and enable links between colleagues sharing methodological and theoretical influences aligning around broader themes. Domains also integrate activities of EDU researchers who are sole specialists in their substantive area, for example for PCPL's History education research (Haydn), where disciplinary policy and practice contexts mirror those framing Mathematics and English education research.

*I*ESC focuses on education policies and practices across international higher education, especially in the Global South, and on informal adult learning. The UNESCO Chair aligns with IESC's thematic foci, building on seminal ethnographic research in international development contexts conducted by IESC's Literacy and Development Group (LDG), since its inception in 2003, on international assessment (Maddox) and on gender and literacy as a social practice (Robinson-Pant). Research in Higher Education and Society (RSHE, lead: Lebeau) conducts research examining international HE provision (Lebeau), on the philosophy of education (Hinchliffe), academic leadership (Bates), and international youth studies in the context of globalisation (Themelis).

PCPL addresses disciplinary pedagogies and learning, teacher education, professional training and knowledge transfer to practice. PCPL's newly-formed Language in Education group (LinE, lead: Viana) specialises in English first-language and literary education (Gordon), and Teaching English to Speakers of Other Languages (TESOL: Hyland, Viana). New appointment Jin brings expertise in Chinese education, language teaching and policy (2020-21). Research in Mathematics Education (RME, lead: Nardi) specialises in university mathematics education, with linked interests in teaching mathematics to non-mathematicians, inclusion and disability, and STEM-related learning in mathematics. PCPL also includes History education (Haydn), and educational evaluation and professional training (Norris).

LLC explores formal and informal education, public pedagogies, sporting cultures, and community and arts-based education research. Critical Cultural Studies in Education (CCSE, lead: Priyadharshini) focuses on education's intersection with media and cultural studies, specialising in youth identities and digital cultures (Dyer), educational futures, youth/childhood and gender (Priyadharshini), advancing theoretical frameworks and methodologies for researching digital literacies and mediated identities online. Sport, Health and Education (SHE, lead: Russell) researches sports coaching and mentoring (Warburton), Physical Education curricula and teacher identities (Russell); motivation and performance (Bartholomew); the resilience of children in care (Hammond); digital platforms for learning, and wellbeing (Bartholomew, Hammond, Russell).

Research Ethics Committee (monthly) oversees approval for education research by EDU staff and students, supporting UEA faculties where colleagues' research is education-focussed. It seeks to ensure the integrity of research 'conducted in a way that respects the dignity, rights and welfare of participants, and to minimise risk to participants, researchers, UEA, and third parties'. It provides guidance on risk assessments, online surveys, large-scale student research, and templates for communication with participants, all available online.

Research objectives since 2014, and review

Our research strategy addressed these objectives, embedding objectives outlined in REF2014 (italicised below):

- 1) establish the UNESCO Chair Programme and its international networks;
- 2) individual development and capacity building, consolidating research strengths and building new ones through staff development and appointments;
- 3) improving network building and internal communications; and
- 4) encouraging interdisciplinarity, through more fluid research domains, across UEA and through further collaborations;
- 5) improving the quality and influence of our research publications.

Since REF2014, we have addressed these objectives in the context of significant increases in the number and value of our research awards, and of over 35% in research income. We have also developed the substance of our research publications, including eight books in our REF2021 submission compared to one for REF2014.

Establishing the UNESCO Chair Programme realised our 2014 commitment *to expand capacity in the International Education domain*, particularly in LDG. In 2016, UNESCO invited UEA to join its prestigious universities network, establishing the first UNESCO Chair in Adult Literacy and Learning for Social Transformation. The Chair builds on LDG expertise and long-established collaboration with UNESCO, particularly through Robinson-Pant's role as IFAD-UNESCO Global Research Coordinator for 'Learning knowledge and skills for agriculture to improve rural livelihoods' (2016). The Chair partnership comprises six universities in Malawi, Egypt, Nepal (two), the Philippines and Egypt. It facilitated embedded research and capacity-strengthening relationships, resulting in large-scale UKRI-funded research on Family Literacy and Indigenous Learning.

Our capacity-building activity entailed strengthening research power through strategic appointments in areas of existing and emerging expertise. We augmented stable core staffing with new appointments in two areas. First, we expanded expertise in language-oriented education research (Hyland, Viana) culminating in the LinE Research Group. Second, we sought expertise to diversify and connect research themes, appointing in international education and assessment (Maddox), higher education and leadership (Bates), educational psychology (Bartholomew), social care (Hammond), health and wellbeing (Russell) and digital sociology (Dyer). Promotion and progression to leadership roles of early- and mid-career researchers also strengthens research power, with established staff increasing research publication frequency (e.g. Biza) and substance (e.g. Bates' monographs), securing funding awards, and improving research impacts (e.g. Gordon).

We *expanded capacity in the Pedagogy, Curriculum and Professional Learning domain*, through increased PGR membership in RME. RME networks and extended influence through international conference leadership (for European Research in Mathematics Education; the International Network for Didactic Research in University Mathematics; International Congress of Mathematics Education), involving PGRs in conference contributions and publications. RME conducted high-impact activity influencing international Mathematics education and teacher education, particularly in Brazil and Greece, through strategic contributions to disciplinary journals (e.g. editing and special editions for *Research in Mathematics Education*); a survey of tertiary mathematics education (Biza, with international authors); and via an edited volume (Nardi). At UEA, RME published co-authored work with the School of Biology and collaborated with our School of Mathematics in research and teaching.

We *strengthened research capacity of staff substantially involved in teacher education*, allocating responsibilities to support research links across EDU and UEA. Researchers with expertise in teacher education leadership and Secondary subject specialisms built close-to-practice impact through their professional networks. Haydn's research on classroom climate

influenced government policy on pupil behaviour, extending REF2014 impacts (see ICS). For Gordon, mentoring and strategic study leave provision culminated in British Academy Mid-Career Fellowship affording research and teacher development impacts in literary study education (2016). Both mentor colleagues through EDU's Doctorate in Education, supporting research development for initial teacher education.

Our current organisational structure of research domains and groups derives from strategic decision-making in 2015, marking a shift from the REF2014 objective to *develop the role of the Centre for Applied Research Education (CARE) in supporting EDU's research*. Until 2015 CARE, established in 1970, pioneered qualitative and participatory education research, case study, action research and democratic evaluation in UEA and beyond. From 2015, the increasing specialism of research group activities and their adoption of a broader range of research methods responded to changes in research trends and the issues to address in education. We moved away from the unitary organisational identity of CARE, establishing the thematic research domains of IESC, LLC and PCPL. The revised structure strengthens and diversifies our research relative to objectives 1 to 4 above, while sustaining CARE's ethos, especially in IESC and the participatory UNESCO Chair programme. The fluid research architecture *encourages interdisciplinarity* in funding applications, research projects and events, supporting connections between domains and across UEA faculties.

To improve quality and influence of published outputs we encouraged researchers to consider writing monographs, yielding nine substantial monographs in the period (Andrews x2, Bates, Dyer, Gordon, Hinchliffe, Hyland, Lebeau and Robinson-Pant). We developed output quality through mentoring for research writing and publication, with a workshop series, and with formative review panel guidance. We promote open research through PURE, uploading pre-publication manuscripts and providing further access to publications through our UEA 'People' pages.

Unit strategy, 2021 onwards

Our strategy for the next cycle orients to new research objects, new collaborations and new horizons in theory, while revisiting collaborations with practitioners and continuing real-time impacts on practice through research evidence. It seeks to:

1. Establish new research architecture for Education, reflecting education research's wider reach
 Maturing Research Groups become our organising principle. We build operational capacity around their increasingly autonomous epistemic identities, and via development strategy promoting cross-group collaboration. Moving away from domains, we consolidate core-subject expertise in Research Groups, especially for early career researchers. Our strategy anticipates collaborations beyond current domain foci, consolidating peer-reviewing activities and grant applications. Seed funding will consolidate theoretical expertise, supporting innovation across established and new areas of expertise.

2. Build interdisciplinarity – in the unit, across UEA and with partners

Our versatile new research architecture inaugurates an interdisciplinary research focus on early years communication, linking education, psychology, linguistics and other disciplines. Funding secured by UEA affords EDU's leadership of an ambitious programme of research through two new appointments by 2023. We consolidate growing strengths in digital learning and wellbeing, from early years to adult learning, building on established income streams, connections between Research Groups, and collaborations with Health Sciences, Psychology and practitioner partners.

3. Advance creative pedagogies and creative learning from early years to higher education

EDU leads UEA projects focussed on creativity and co-construction with practitioners (CreativeUEA), and a university-wide unit supporting professional development and innovation in

higher education learning and pedagogy. Both advance interdisciplinary research for creativity in learning and practice.

4. Respond to global challenges, especially for the Global South in the post-COVID era

Renewal of the UNESCO Chair to 2024, recruitment of strong PGR students and recent GCRF grant successes establish EDU as an influential strategic partner for organisations addressing global challenges. Strategy extends contributions addressing social justice, the digital divide, environmental degradation and health issues where they intersect with learning and professional development.

Improving research impacts and interdisciplinarity

Our increasingly productive research environment is evident in flourishing research and impact across domains, often emphasising interdisciplinarity. The impact strategy for Haydn's classroom climate research (see ICS) informs impact strategies in PCPL, to influence teacher education and curricula. RME's MathTASK project influenced teacher education in mathematics, through international collaborations with colleagues in Brazil and Greece. Reading research in 'Literature's Lasting Impression' (Gordon, British Academy) investigated experiences of reading together at school, in higher education and in book clubs, generating impacts on teacher education through face-to-face workshops for universities, national CPD, and publications in teachers' magazines and handbooks. These impacts were supported by study leave and priming funds, and are sustained by continued internal funding, new invitations to publication, and ongoing research adapting them for different international audiences and learning cultures.

In LLC, expanded staffing in SHE diversified expertise in quantitative methodology, sports psychology and wellbeing, affording frequent and varied research outputs and impacts enhanced by cross-UEA collaboration with the Schools of Psychology, of Medicine, and Health Sciences. CCSE develops UEA research in media and digital culture, with membership of UEA's BA Sociology steering committee, guest lecturing for the Masters in Gender Studies, and providing Masters co-supervision with UEA's Institute of Interdisciplinary Humanities. CCSE achieved notable academic and public impacts by convening conferences, webinars, and via traditional and new media channels (TED talks; The Conversation). Through CreativeUEA, we collaborate with the East Anglian Film Archive, building on the arts-based research project 'Akenfield Now', to investigate community film-making and film archives in HE and cross-curricular learning in participating schools. The UNESCO Chair substantially strengthened our focus on international education, and opened new research funding streams.

2. People

Staffing strategy

In this cycle, we consolidated research strengths, recruiting for methodological diversity, nurturing new appointments, and supporting sustainability, continuity and succession planning. Strategic appointments increased our research capacity from 14 researchers (13.2 FTE) in 2014 to 19 by 2020 (15.2 FTE), now comprising six professors, one reader, seven associate professors and five lecturers across full-time and part-time positions. The School includes six Emeritus professors and four visiting professors, one post-doctoral research student, and one researcher. Eight managerial, administrative and technical support colleagues assist our researchers.

For building research capacity, our domains comprise established and early-career researchers in similar ratios. Each Research Group includes professorial colleagues or staff holding senior UEA research positions. This balances succession with renewal and development: 10 of 19 staff entered for REF2014 are entered for REF2021. Consolidating REF2014 research strengths (in literacy and development, in Mathematics education), senior appointments extended expertise for researching language in education (Professors Andrews and Hyland, Associate Professor Viana), and to the inception of LinE. Other appointments improved depth of specialism in IESC,

extending expertise in school leadership and transformation (Bates, mid-career appointment) and in the philosophy of education and citizenship education (Hinchliffe). Other appointments consolidated expertise in China's education system (Cheng, 2017-18; Jin, September 2020).

Sustainability, continuity and succession planning are realised through appointments consolidating research strengths and growth in key specialisms. Between 2014 and 2021, senior colleagues made major contributions to our research, research leadership, REF submission and evolving research emphases (Carrington, Director of Research; Andrews, Head of School: each to 2019). To withstand staffing change we built expertise and critical mass, through mentoring, promotion of mid-career researchers, and new appointments. Mid-career researchers at REF2014 now hold Education leadership roles (Lebeau, Head of School; Priyadharshini and Gordon, Directors of Research; Biza, Director of Doctorate in Education). Similarly, recent appointees progressed swiftly to research leadership roles (Russell, UEA Ethics Chair; Bates, PGR Director), as have early-career researchers (Warburton, EDU Ethics Chair) and Dyer (Media Officer).

Staffing strategy for the new cycle anticipates change through late-career retirements, planning for researcher and Research Group development. Recent appointees contribute significantly to research leadership, two chairing Research Groups (SHE; LinE). Mid-career researchers led and managed practitioner-oriented research, strategically developing professional impacts to mature beyond 2021 (Biza, Nardi: MathTASK; Gordon: Literature's Lasting Impression). Beyond 2021, we prepare for impact activities in larger teams, involving teaching/scholarship staff whose interests align with research groups and domains.

Staff development, wellbeing, equality and diversity

We have been working towards our Athena SWAN Bronze application since 2017. Staff recruitment embeds equality principles consistent with UEA guidelines, panels of five comprising at least one external and internal representative of each gender. Recruitment saw slightly more male applications, with more females shortlisted and employed. Over the period, Professor grade representation averages 50:50, with average male representation lower at Associate Professor (30%) and Lecturer (26%) grades.

EDU allocates 40% of researcher time to research and impact activities, with PhD supervision allocated separately. It supports research careers development through mentoring, appraisal and research activity planning.

Researchers identify research and impact goals in annual Research Activity Plans looking two years ahead, discussing them with Directors of Research and the Head of School in individual meetings. Researchers receive written feedback recognising achievements, signalling individual research priorities, and identifying resources and collaborations to assist attainment of research objectives. Research Activity Plans inform study leave allocation, conference support, and research funding.

Appraisal identifies and addresses professional development priorities, for research and teaching, and informs departmental and Faculty-level provision of training and support for individuals and Research Groups.

EDU researchers have designated mentors, matched according to shared research interests by Research Groups or teaching teams. Mentors guide new appointees following modules in UEA's Masters in Higher Education Practice, trained by UEA's centralised support (the Centre for Staff and Educational Development, to 2020).

Study leave allocation seeks to fulfil unit research strategy objectives, focussed on substantial publications (especially monographs) and funding applications. Researchers may apply for one six-month period of study leave after every seven semesters. Since 2014, 11 researchers took

study leave. EDU researchers usually complete two or three journal articles, or progress with writing monographs (e.g. Bates, Priyadharshini). Often, researchers establish projects, for instance the Mental Health, Teachers and Teaching project (Russell), or build partnerships (Warburton: Visiting Fellow, Loughborough University; Biza, Nardi: Erasmus International Partnership Mobility Scheme). Each example yielded outputs for REF2021 and developed our impact activities.

The School has longstanding arrangements supporting flexible and home working. Our Return to Work process (including return interviews) entails discussion of individual circumstances, exploring assistance including further medical appointments and UEA Occupational Health support. During the Covid-19 pandemic, we recruited three Digital Champions to induct and support staff in using online platforms for intensified homeworking and research activity.

Supporting PGR training and supervision

Since 2013/14, Education had 133 new PGR registrations: 74 registrations full-time, and 59 full-time. Our largest programme, the Doctor of Philosophy (PhD) degree, had 67 registrations (51 full-time 16 part-time). Registrations include a large international cohort as well as home students. PhD recruitment in this cycle saw some growth: 7 registrations in 13/14, 9 by 19/20. Degrees awarded per year remains stable, averaging 10.4 per annum 2014-2021 (2008-14: x9). Our strength in catering for practitioners and leading impact for the regional education workforce is reflected in 43 registrations to our Doctor of Education (EdD) degree, the largest part-time cohort in the period averaging 6 registrations a year, with 16 new registrations by 18/19. Our growth programme is the Doctorate in Educational Psychology (EdPsych), funded by the Department for Education, supporting the profession in the Eastern Region, with 11 new registrations in 18/19 and 10 more in 19/20. This increased total PGR annual active registrations from 85 (2013-14) to 109 (2019-20), consolidating our responsiveness to regional and national demand for professional doctoral qualifications.

Research Degrees Awarded for UoA 23								
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
PhD	-	4	4	5	1	4	4	22
EdD	8	9	4	8	10	5	7	51

PGR recruitment and application processes produce good gender balance relative to the sector's traditional female orientation, and in averages for registration in full-time (32%M: sector 30%M) and part-time programmes (35%M each). Full-time applications, offers, and acceptances by females consistently remained above those for males (ranging between 67% and 76%), paralleled in part-time courses.

We provide excellent doctoral supervision through regular supervision meetings (8 meetings a year full-time, 3 part-time). All researchers act as doctoral supervisors, including staff on fractional contracts. We secure consistent supervision quality through induction and mentoring for new staff, initially working as second supervisors with more experienced colleagues as first supervisors. Across pathways, students experience annual progress reviews and fully-documented supervision meetings. Students are supported by Student Advisors, and processes responsive to individual needs such as the intercalation process. A PGR student representative attends EDU Research Committee and Research Forum. Our Terry Phillips Prize (£500) recognises creatively-written doctoral theses.

Doctoral students are further supported by the Faculty of Social Sciences' (SSF) postgraduate research training provision in UEA's Doctoral College, organised according to ESRC's Postgraduate Training & Development Guidelines (2015). This provision encourages PGR students' interdisciplinary networking alongside students from other units in two training programmes, taught by researchers across SSF. Personal and Professional Development offers core training in research and transferable skills, and research methods. Advanced Training

develops specialist research methods and approaches, including participatory and intercultural methodologies, discourse and narrative analysis. As Education Pathway members of the doctoral training partnership South East Network for Social Sciences (ESRC-funded), our researchers lead doctoral training on 'Doing research online' (Dyer) and 'Participatory Research Approaches in Global Contexts' (Priyadharshini, Robinson-Pant). Our current SeNSS studentship holders research transitions of young adults with SEND (Inglis), and nutrition literacy in Senegal (Binesse).

Research Groups support doctoral students informally in networking, organising events (e.g. organising the Brian Street memorial lecture), and representing UEA (Rennolds: Standing Conference on University Teaching and Research in the Education of Adults). Our biennial EDU PGR conference showcases doctoral research and affords networking with students across faculties and universities. We encourage doctoral students to participate in UNESCO Chair activities, contributing to commissioned case studies (e.g. UNESCO Global Education Monitoring Report 2021), preparing funding bids (GCRF: Binesse, Millora; UNESCO: Wang, Maleki) and contributing to disciplinary networks (BALID: Millora, Chair; Maleki, Committee).

Our dedicated 24/7 PGR suite provides individual desktop PC facilities, a PGR Education methods library, meeting room and lounge. PGR programme leaders ensure students access online reading and resources through TALIS and the virtual learning environment Blackboard, including Collaborate for online teaching. These are important facilities for our international students (during fieldwork abroad) and professional research cohorts (EdPsych, EdD) who are often part-time students working at distance from campus. EDU facilitates support and networking opportunities for PGR students via annual PGR conferences (managed by PGRs), regular writing-for-publication workshops (weekend retreats plus tutorials: Dr Anna Magyar at UEA Earlham Hall), and Thesis Bootcamp addressing thesis presentation and submission. As invited delegates to UEA's annual Researcher Summit, PGRs and staff can submit presentation proposals. PGR students have a School Representative who joins our Graduate Student forum, and manages our open PhD Webinar series with nearly 300 registrations from 35 countries.

PGR student destinations are diverse, reflecting programme and Research Group breadth. Many students secure important roles in education research, leadership and administration, whether in international higher education, with NGOs, or with national ministries for education. Our part-time PGR students are often experienced mid-career professionals (especially EdD), progressing to new roles or promotion following doctoral study. Across all cohorts, many students secure publication in academic journals, professional magazines, and monographs (e.g. Titchiner, 2017; Mjaya and Fusheng, forthcoming - Bloomsbury series edited by Robinson-Pant and Rogers).

3. Income, infrastructure and facilities

Institutional arrangements support the energetic commitment of researchers as groups and individuals to collaboration, networking and partnerships. These links are international, national, regional and internal. Support is organisational (e.g. through Research Office, Outreach, UNESCO Chair Programme, UEA Initial Teacher Education), financial (e.g. HEIF impact and pump-prime funding) and developmental (e.g. staff training and mentoring). Induction for new colleagues through research domains introduces them to specialist networks (through Research Groups) and promotes versatile interdisciplinarity (in and across domains, and across UEA). This cross-working maximises our capacity, dissemination and responsiveness to opportunities.

Income generation and growth

The unit received 23 new research awards of value £5.6M (active: 27/£6.0M) compared to a REF2014 total of £313k. New unit awards numbered 43 with value £5.8M when 14 consultancies and 5 other projects are included (52 active: value £6.4M). Since REF2014, new

award value per FTE increased from £22.3K to £294.7K (active value £336.8K). Total income increased 35.3% (17% per FTE).

This consolidates success in the REF2014 cycle, laying foundations for sustained growth in emerging specialisms. The UNESCO Chair received awards from UKRI (£1,578,552; 2019-21), ESRC (£923,532) and SRHE (£5K, 2014-15), fulfilling our REF2014 objective of extending LDG activity via the UNESCO Chair Programme. Our commitment to interdisciplinary research secured an award from the National Institute of Health Research (£1,835,360; joint award with the School of Health Sciences, Norris 2015). Our mid-career researchers augmented income generated by professorial colleagues, some with substantial first funding awards. Meeting our objective to build research capacity of researchers with teacher education expertise, Gordon secured two large awards (British Academy, 2016: £108,726; Heritage Fund, 2017, £72,712). We secured large awards from the Economic and Social Research Council (two awards: Lebeau and Priyadharshini 2014, £29,162; UNESCO Chair, as above); one fellowship (Jin 2019, £90,117) and one grant from the British Academy (£9,950, Nardi and Biza 2014), one British Council Award (£19,256, Viana 2020), and one award from the Engineering and Physical Sciences Research Council (£149,806, Nardi 2016). The range of funders, including charities and arts and science organisations, confirms the success of our broadening strategy for income generation and training for research staff on writing grant applications. New researchers Hammond and Bartholomew achieved grant success for 'The Nurture Network: Promoting Young People's Mental Health in a Digital World (UKRI/eNurture 2019, £24,854), as did established colleagues with the University Council for the Education of Teachers (£1.5K, Themelis 2014) and Active Norfolk (£1K, Warburton 2017). 13 of our 19 REF-entered staff secured funding, including nine as PI, with successes in each research domain.

In PCPL, funding awards from the British Academy for education research in Mathematics (MathTASK) and English (Literature's Lasting Impression) enabled projects engaging teachers, teacher educators and the public. Similarly, Haydn's impact activity relating to the Haydn Behaviour Scale (see ICS) focussed on teacher education in the UK and Europe. Their research has been sustained beyond initial funding with UEA HEIF funds supporting further impacts on teacher development, for MathTASK in Brazil, Greece and other countries; for the Haydn Scale and Literature's Lasting Impression in contributions to several university programmes.

The UNESCO Chair secured funding through commissioned research for the International Fund for Agricultural Development-UNESCO (2015), for UNESCO's Institute for Lifelong Learning (2016), and for a UNESCO Global Education Monitoring Report background paper (2021). The UNESCO Chair's impact strategy also secured HEIF funds supporting liaison with UNESCO in Hamburg and Paris, convening seminars with their policy staff and learning from their practices for tracking research impact. Other impact funds (Rapid response ESRC) supported collaborative research with New Routes focussing on the experiences of refugees, sexual health and gender relations. In International Assessment (see ICS), Maddox won HEIF funds to inform national assessment systems through collaboration with representatives of European ministries of Education.

Impact generation strategy

Our impact generation strategy involves these elements:

Building unit researchers' awareness of funding sources and skills for making applications

Our Directors of Research work with UEA's Research and Innovation Service, identifying Education funding sources and grant calls, circulating to unit researchers through regular bulletins. The Director of Research designs a developmental programme for researchers (EDU Research Forum, once every semester), building awareness of appropriate funding sources and skills for grant applications. Sessions include guest input on application composition, on funding

opportunities (Nuffield, 2019; ESRC, 2020), introductions to UEA leads on available funding schemes (e.g. the Research England Connecting Capability Fund through the Eastern Arc Consortium), peer support, sharing examples of successful applications, and encouraging collaborations. This approach supported four applications to British Academy Fellowship schemes, two with success. Additionally, SHE members made collaborative bids for funding through the Eastern Arc scheme. The Director of Research also liaises with research groups and individuals to target funding opportunities (e.g. tenders for the Department of Education initially directed to PCPL). RIN provided a series of information sessions on Horizon 2020 funding. Unit researchers made several applications through these channels and continue, for example in early-career researcher application to the UKRI Future Leaders scheme.

Supporting principal investigators

Any colleague planning a funding application consults with the Directors of Research. Support continues from RIN colleagues in RIN, advising on costing and staffing details. We provide unit-level guidance on applications to specific funding schemes (e.g. Leverhulme, ESRC, British Academy) before they enter Faculty sifting processes. Colleagues liaise with our Impact Champion to embed impact activity in applications. The Directors of Research and our Research Review Panel consider advanced draft applications, providing feedback to principal investigators. Where funders provide feedback on applications, research staff share general details with the School to inform further applications. Some applications are reviewed and supported with feedback at Faculty level (e.g. UKRI Future Leadership scheme).

The unit supports individuals' strategic approach to seeking funding through Research Activity Planning and study leave (by application), considering applications relative to publication and impact activity. Research and impact activity is further incentivised by access, through application, to impact funds (HEIF) available to researchers (e.g. for Mathematics education impacts, reading research, and UNESCO Chair initiatives). The School's workload model recognises significant contributions to research and research administration, enabling adjustments to teaching so staff have adequate time to conduct research.

Collaborating within and beyond the university

Education researchers lead several cross-university initiatives for interdisciplinary research, including University of Sanctuary, as UEA Chair of Ethics and Creative UEA Chair. We make regular co-applications with colleagues at other universities e.g. Priyadharshini (Leverhulme, Bristol and Glasgow). UEA communications also support collaboration: a call for expressions of interest in co-working from UEA's East Anglian Film Archive led to our Heritage Fund award 'Akenfield Now', a project with impact activity bringing 16-19 students to UEA's archive and involving cultural sector partners from the BBC, British Film Institute and Norfolk Record Office.

Infrastructure and facilities

The School's accommodation in the Lawrence Stenhouse Building provides research and teaching space. Unit researchers access the archive of the Centre for Applied Research in Education (CARE), and UEA library's Education section, updated by specialist library liaison which consults staff and students on content, assisting inter-library loans and purchasing.

EDU supports funding applications and access to internal funds through consistent presentation of opportunities and assistance in Research Committee, Research Forum, and weekly School bulletins. Research and Innovation Services (RIN) support is accessible to all: RIN colleagues regularly join to research meetings to ensure awareness of their role and available support. The unit's promotions committee comprises ATR and ATS staff. The committee recognises that unit staff frequently have duties balancing research activity with intensive teaching and managerial responsibilities. Staff appointment, development and promotion are addressed in the unit's Athena SWAN action plan.

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

Contributions to society and economy

We have an international reputation, established by Lawrence Stenhouse and the Centre for Applied Research in Education, for pioneering curricular and policy innovation, co-working with practitioners for research-informed teaching and application. Stakeholder and end-user involvement distinguishes our research, shared widely via traditional and new media, and public events.

The UNESCO Chair combines this participatory ethos with commitment to intercultural learning through long-term research and policy-focused collaboration with international partners. An important concern emerging through UNESCO Chair partners' dialogue has been the imposition of Western knowledges, values and identities through literacy and development programmes. This prompted the Chair's research on Family Literacy and Indigenous Learning (UKRI-funded), policy-focused activities in Ethiopia, Malawi, Nepal and the Philippines, and sustained international policy collaboration with UNESCO.

The Chair also

- facilitated new directions in adult literacy research and strengthened South-South-North learning/capacity, including at district level in the Philippines and Nepal;
- facilitated capacity-strengthening and research events with national and international stakeholders with partner universities, including academic writing and participatory workshops, international conferences and International Policy Dialogue Forums;
- established the webinar series #All4SocialChange, 'a platform to share ongoing research in adult literacy and learning for social change among early career researchers, policymakers and practitioners across the world' (since 2019);
- in the UK, engaged with regional and national policy actors and practitioners organising two Adult Education100 forums to develop a submission to the National Commission on Adult Education (2019);
- examined intercultural learning and gender relations among migrant, refugee and asylum-seeking populations, working with regional partners in the Chair's New Routes Integration in Norwich project (2018-19), also developing participatory methods based on the team's experience in the Global South.

At an international level the Chair works closely with UNESCO Institution for Lifelong Learning and UNESCO Paris to integrate and develop a situated literacy approach to policy development, particularly to address indigenous and intergenerational learning and literacy as a cross-sectoral practice.

IESC conducts and builds capacity for international collaborative research, particularly in the Global South, addressing social justice, gender equality, informal learning, adult literacy, higher education, and education system transformation. IESC contributes methodological and theoretical advances to the field, including in the philosophy of education. Robinson-Pant's publications build on UNESCO Chair research on indigenous adult literacy and learning, gender equality (co-edited special issue of *Studies in the Education of Adults* (51:2), 'Indigenous Women and Adult Learning'), health (health and literacy in Nepal, *Compare*); and ethics in the context of internationalisation (*BERJ*). Her interdisciplinary book 'Researching across Languages and Cultures' (with UEA socio-linguist Wolf) contributes theoretical and methodological insights.

In Higher Education research, Lebeau addresses internationalization, academic mobility, university governance, and policies in the Global South. He developed international research training and capacity-building programmes via Open Society Foundations and the Council for

the Development of Social Sciences in Africa (the Meaning Making Initiative). He co-authored the United Nations Research Institute for Social Development report on 'Higher Education Expansion and Social Inequalities in Sub-Saharan Africa' (2020). Lebeau was project member to the ESRC-NRF programme 'Pathways to Personal and Public Good', supporting South African graduate employability for over 20 researchers. The network generated a Centre for Global Higher Education policy briefing, and Lebeau contributed to the project's book. He researched the 'Impact of Higher Education Institutions on Regional Economies' (co-authored book), extending ESRC research (2007-2009). For the international study of Mexican academic and scientific mobility (ROMAC), Lebeau was UK lead researcher, coordinating UK data collection and contributing to ROMAC's framework analysing student destination choices.

Maddox's research contributes to improved International Large-scale Assessment design and validity, via collaborations with OECD, improving assessment quality for the Programme for the Assessment of Adult Competencies (Solvenia and Senegal) and contracted research for European Education ministries (Luxembourg, France), as well as government departments in Italy, Portugal, Brazil, Sweden, Norway and Japan. In the UK he works with AQA, Pearson and Cambridge Assessment. Bates' research focuses on changing conceptions of professionalism in education, and dynamics of knowledge production, mediation and application and character education. Bates was co-convenor of the Emerging Researchers' Conference (2014-2017) for the European Educational Research Association. Hinchliffe's blog post on academic judgement for the Society for Research into Higher Education was the second most-viewed of 2020, and third all-time. Themelis co-convenes the British Sociological Association 'Activism in Sociology Forum', regularly reviews for the Czech Science Foundation, and is a fellow of the Center for Contemporary Immigration Studies, University of California. He has made several keynote presentations on education movements at universities in Brazil (e.g. Universidade Federal do Rio de Janeiro; Fundação Universidade Estadual do Ceará, both 2015).

PCPL research developed 'close to practice', with and for professional audiences and organisations involved in formal teaching and learning, and professional training. It influenced teacher education in subject curricula and pedagogies, and professional training in pharmacy. For teacher development, Haydn's research influenced Department for Education approaches to challenging behaviour in schools, representing professional voice and contributing instruments for improving teaching, school effectiveness and informing preparation of over 25 000 teachers ('the Haydn Scale': see ICS). Haydn's publications in key History education professional handbooks (e.g. Learning to Teach History) support teachers' disciplinary pedagogy. Lesson Study research (Elliott, Emeritus Professor) impacts teacher development through international adoption in school systems, particularly in Japan, and by academy trusts in staff development (World Association of Lesson Studies; UEA Masters/CPD module; Cambridge Leadership for Learning Network webinar).

Research in Mathematics Education shapes international teacher education curricula and pedagogies, especially in Brazil and Greece. RME sustains collaborations with HEI mathematics education specialists, teachers and teacher-educators through regular co-authoring and conference presentations. RME's MathTASK online materials support initial teacher education trainees' developing pedagogic judgement, adopted internationally, by UK programmes, and by local authority advisory services (Educator Solutions). Challenging discourses concerning disabled learners' mathematical ability, RME led professional development workshops for primary and secondary teachers (CAPTeaM: British Academy International Partnership and Mobility scheme 2016-21). RME advances public and school-based scientific literacy and communication through interdisciplinary research with colleagues from UEA's Schools of Biology and Medicine (RCUK-funded), and with the Microbiology Society (interdisciplinary studentship; Nardi, co-supervisor).

Gordon's 'Literature's Lasting Impression' research underpinned the monograph 'Researching Interpretive Talk around Literary Narrative Texts', PGCE workshops for King's College London, Glasgow, Cambridge, Plymouth Marjons and UEA (2019-21), and Department for Education-sponsored CPD (Inside Government, 2019). His Shared Literary Reading Masters' module

continues co-designed research with local teachers. He shared research addressing reading for pleasure with the public via presentations at the British Academy's inaugural Summer Showcase 2018, Norwich Millennium Library and Norwich City Football Club.

Norris contributed to training programme development enabling pharmacists to assume responsibility for pharmaceutical care provision within care homes, as part of Care Homes Independent Pharmacist Prescribing Study team with Norwich Medical School (NIHR-funded). Responding to NICE publications suggesting pharmacy practices for prescribing, monitoring and administering medicines in care homes could be significantly improved, he contributed to a systematic review of reported approaches to training pharmacists, identify potential knowledge requirements.

CCSE contributed to policy consultations, for New Zealand (for chief science advisor to the Prime Minister), and in the UK (to National Technology Adviser, UK Department of Digital Culture Media and Sports; and Ministerial Roundtable). It formulated a response considered by the House of Lords Select Committee on Democracy and Digital Technologies (2019). Regionally, CCSE joined Norwich's Children and Young People's Service in planning and research meetings, and organised panels for UEA's conference for the international AURORA HEI network. As editorial team for *Digital Culture and Education*, CCSE members (with colleagues from Vienna, Cardiff and Bristol) established the journal as an open access dissemination point for bold interdisciplinary research, including a COVID-19 issue. They edited 'Generation Z: Zombies, Popular Culture & Education' (2016: Carrington, Priyadharshini), remaining in Springer's top 25% ebook downloads into 2019. CCSE webinars examine emergent interdisciplinary topics in the social sciences, reaching on average 100 attendees. PGR student Rennolds leads a research podcast, collaborating with Social Work colleagues.

SHE's collaborative research examines professional identities of PE teachers, and explores student and teacher health knowledge. SHE's strengthening PGR community (especially EdD) has generated research and co-authored publications on pupil disadvantage, links between physical activity and classroom behaviour, bullying, wellbeing and sports coaching. SHE's work on motivation, gender identity, health and physical activity in society, is shared through regional initiatives (Active Norfolk) and national partnerships (National Roller Derby). SHE co-designs research with practitioners, around coaching and mentoring, and with teacher education partners (Mental Health and Wellbeing Trainee Teachers Project, launched 2019). Leading the Looked After Children's Mental Health Research Network (LANTERN) within UEA Health and Social Care Partners (UEAHSCP), Hammond focusses on mental health of children and young people with care experience. He reviewed web content for South West Grid for Learning Trust, and led the team working on content for mitigating Online Harms to support parents/carers, educational professionals working with children, and young people with care experience. Bartholomew established new partnerships investigating online platforms in intervention work with teachers (with CPD-provider IrisConnect) and young people (with music mentoring: Noise Solution).

Wider contributions to research and the research base

Our staff evaluate and review for major UK and international research councils and funding agencies. They are executive committee members, advisory board members or convenors of Special Interest Groups for learned and professional societies. They hold responsibilities in numerous specialist national and regional organisations bringing together researchers and practitioners for dialogue and impact, including the Education and Development Forum (Robinson-Pant, trustee), International Association of Teachers of English as a Foreign Language (Hyland), United Nations network for Universities and Social Inequalities in the Global South (Lebeau), International Academy of Technology (Dyer), Education and Development, Network for Didactic Research in University Mathematics (Nardi), the Historical Association (Haydn), International Society of History Didactics (Haydn), British Association of Applied Linguistics (Hyland), British Educational Research Association English in Education SIG (Gordon), Chinese Educational Research Association (Jin), International Society of Behavioral Nutrition and Physical Activity (Warburton), and (UK Forum for International Education and

Training (Robinson-Pant). Dyer presented for SMARtEN, led by King's College London (UKRI-funded). External collaborators for whom research involvement was costed in grant awards include the Institute for Film & Pictures in Science and Education, Norfolk and Norwich University Hospital Trust, Norfolk Community Health and Care NHS Trust, and Norfolk Primary Care NHS Trust. The British Association for International and Comparative Education appointed Robinson-Pant as President (2019-20), presenting the Presidential Keynote Lecture at UKFIET International Conference on Education and Development.

Global partnerships and networks

Across domains, we lead and join many global networks for impact, capacity-building, conferences and funding applications. For RME, teacher development activity is especially concentrated in Brazil, with universities in Rio de Janeiro and São Paulo as state-level hubs for mathematics education. LinE links with universities in Hong Kong and China (e.g. Guangdong University of Foreign Studies, Peking, Shanghai Jiaotong). CCSE sustain links with Japanese HEIs, as does our Lesson Study research (e.g. Bunkyo, Iwate, Kansai, Kyoai Gakuen, Yokohama City). Higher education collaborators for our research awards include Deakin University (Australia), Queen's University Belfast, Lancaster University, and the universities of Aberdeen, Augsburg (Germany), Bochum (Germany), Dalarna (Sweden), Essex, Salamanca (Spain) and Sheffield.

The UNESCO Chair develops capacity in response to partners' interests, including South-South exchange of expertise and experience e.g. a co-designed mentoring programme for literacy practitioners (University of Santo Thomas, the Philippines). Eight international UNESCO Chair colleagues contribute teaching for UEA's MA module on adult literacy and development, on intercultural learning and developing adult literacy curricula. Robinson-Pant runs Compare's BAICE-funded Writing for Publication mentoring and workshop programme (since 2007).

Editing and reviewing

Building expertise in editorship, 14 REF-eligible staff have assumed editorial responsibilities since REF2014, 4 as journal editors. We hold board memberships for 49 journals (average 3.5 per active individual), UK and international, including 4 foreign-languages journals. Our board membership spans generalist journals and specialist journals, diverse titles representing our interdisciplinary versatility. 15 staff regularly review for journals, including several world top 100 journals, and for academic book publications (x3: Palgrave, Routledge). Our journal editorial contributions increased substantially on 25 editorial responsibilities in REF2014. On the *Cambridge Journal of Education* we hold executive (Norris) and associate executive editor (Priyadharshini) roles. In language and literacy education research, we hold editorial responsibilities for *Journal of English for Academic Purposes* (Hyland: Emeritus editor), *Corpus Pragmatics* and the *Brazilian Journal of Applied Linguistics Systems* (Viana: editorial boards), *Applied Linguistics in the Global South: New insights from South America* (Hyland: guest editor) and *L1: Educational Studies in Languages and Literature* (Gordon). Our mathematics editorial roles include *Research in Mathematics Education* (Nardi, advisory/caretaker 2013-18) and the *International Journal for Research in Undergraduate Mathematics Education* (Nardi, 2019-) and guest/special issue editorship of each. Editorial board memberships include *International Studies in Sociology of Education* (Bates), *Compare* (Robinson-Pant), *International Journal of Educational Development* (Robinson-Pant, advisory), *Policy Reviews in Higher Education*, *British Journal of Sociology of Education* and *Studies in the Education of Adults* (all Lebeau). Themelis is editor to *Journal for Critical Education Policy Studies* and board member to *SoJo Journal: Educational Foundations and Social Justice Education*. Dyer and Priyadharshini are editorial board members for *Digital Culture & Education*. Dyer guest edited *New Media and Society*. Haydn is editorial committee member for several leading History Education journals.

Media profile

We enjoy strong regional profile, with radio features on BBC Suffolk and BBC Norfolk, through UEA's own podcast Coffee Break, through presentations at Norwich Science Festival, Pint of Science 2020 and Science Café, TED Talks (Dyer: young people and digital culture) and via education-focussed film screenings at Norwich Forum and Woodbridge Riverside Cinema (Akenfield Now). Our research featured in national online news and media, including the BBC, CNN, The Guardian, Observer, Daily Mail, Independent, Times, Eastern Daily Press and Quartz. Magazine articles include The Spectator and The Conversation. Our work features in the education press (Times Education Supplement). National BBC Radio 4 featured 'Akenfield Now'. Podcasts reaching international audiences include Big Picture Science (SETI Institute: 155 US radio stations), Naked Scientists (ABC Radio National, Australia; BBC Radio 5 Live), Digital Sociology, and Paula Meir's 'Your Life, Your Way'.

Sustaining the Education discipline

Our researchers lead and join collaborations to sustain and energise Education, from IESC and UNESCO Chair capacity-building in the global south, to establishing disciplinary MSc teaching provision in Mathematics in Tunisia (University of Tunis) and Greece (University of Athens). Our researchers hold chairing and refereeing roles for many Education conferences (refereeing for British Educational Research Association, the Society for Research into Higher Education, European Educational Research Association, and the International Technology, Education and Development Conference; co-chairing for International Network for Didactic Research in University Mathematics, International Calculus Conference). We review widely for research councils and agencies in and beyond the UK (e.g. ESRC College of Reviewers; British Academy, Australian Research Council, Scottish Universities Insight Institute, Malaysian Education Bureau, Kazakhstan Government, British Association for International and Comparative Education), and for ten funding agencies. Robinson-Pant completes policy reviews for UNESCO. Reviewing for national science foundations covers the United States of America (NSA), Israel (ISA), Switzerland (SNSF), Czechoslovakia Science Foundation (GACR) and research bodies in Belgium, Austria and Germany. Viana is Seminars Coordinator for the British Association for Applied Linguistics. CCSE organised the UEA conference 'Understanding the Social' (2019, Dyer with London College of Communication), presented to the ESRC Early Career Researcher Strategic Discussion Meeting and international symposia (Japan, 2019), and gave keynotes for the Royal Navy annual media conference and British Sociological Association's Presidential Event at Whitehall.

Our interdisciplinarity, networks and diverse contributions afford UEA's influence across several dimensions of Education research and practice, providing excellent basis for our continuing and creative impacts on pedagogies and learning, in response to global challenges of the twenty-first century. New research awards, arising from applications made before 31 July 2020, demonstrate our continued capacity for sustaining the discipline internationally. They include a commission for the United Nations Development Programme/UN Volunteers to complete the 2021 UN State of the World's Volunteerism report (USD159,000)/£112,242); a workshop and mentoring scheme for early-career researchers in Mozambique (£19,970); a study of 'Health literacy, indigenous practices and family learning in the time of COVID-19' in Ethiopia, Malawi, Nepal and the Philippines (£25K), (both Research England quality-related Global Challenges Research Fund); and a review to safeguard health and well-being of adolescents learning online following the COVID-19 pandemic in China (British Academy Humanities and Social Sciences Tackling Global Challenges Programme, £49,950).