

Institution: The Open University

Unit of Assessment: C25 Education

a. Overview: The Centre for Research in Education and Educational Technology (CREET), established in 2004, blends intellectual originality and empirical rigour. It has an international reputation for field-leading research that coheres around four substantive interdisciplinary research clusters: Childhood Studies, Education Futures, Language and Literacies, and Technology Enhanced Learning (TEL). Each cluster generates distinctive agenda-setting programmes of socially significant, impactful research. Original theorising, methodological innovation, rigorous research, user partnerships and public engagement are fundamental. A large community of doctoral students is integral to our work, contributing to both the creative renewal of ideas within the Centre and the development of the wider research base through training future research leaders.

CREET is led by a Director (Littleton) and an Executive Steering Group comprising the Deputy Director (who has a specific research impact and public engagement brief), the Director of Postgraduate Studies, four Cluster Directors and Deans/Directors/Associate Deans of the main contributory units (the Faculty of Education and Language Studies and the Institute of Educational Technology). The Director is a member of the Open University's (OU) Research Committee ensuring alignment with, and contribution to, the OU's strategic objectives and research targets.

b. Research strategy

Strategy post-RAE2008: Since RAE2008 our strategic aims have been to foster (i) field-leading research within four distinctive, sustainable signature areas of international research excellence (see below); (ii) a vibrant research community engaged in collaborative research within and beyond the Centre; (iii) excellence in postgraduate research and training; (iv) strategically aligned external research grant bidding; (v) a diverse portfolio of research funding sources; and (vi) user partnerships/public engagement and activities designed to secure the impact of our work outside the academy. A commitment to participatory research and social justice agendas underpins these strategic aims, reflecting the wider OU strategy to nurture outstanding research that is socially engaged.

In RAE2008 we indicated, as a key strategic objective, developing the four thematic strands of research presented in the submission (TEL and pedagogy; literacies, applied linguistics and languages; transformation of learners and contexts; and national and international policy and practice). To accomplish this we undertook a strategic review of our portfolio of research informed by a university-level review of research centre strategy, external benchmarking and competitor analysis and analysis of our staffing base (including actual/anticipated changes).

The outcome of this review was the formal rationalisation of eleven research groupings into four strong, coherent interdisciplinary clusters focusing on areas of distinctive, sustainable excellence as detailed in 'Evidencing success' below. Implementing this strategy has entailed tightening of research foci, reconfiguration of research support, and refinement of academic leadership and research management practices. Cluster Directors (appointed at Professorial and Reader level) now lead the development of programmes of work within each cluster with the support of other senior researchers. Target setting (outputs, bidding activity, research student supervision, public engagement, and impact) now operates at CREET, cluster, and individual level, and targets are monitored through quarterly review and the annual business planning cycle. The allied realignment of research support and strategic investment of Quality Related (QR) spend ensures pump priming of emerging areas of inquiry; support for collaborations with academics, organisations in the private/public/third sector and users; hosting international speakers; development of external funding bids; conference attendance; production of research outputs; securing and evidencing impact; and public engagement and outreach. We have invested in research studentships aligned to the work of our four research clusters and further developed our research training programme (see **c**) to realise our objective of building wider capacity in education research.

A key objective, identified in RAE2008, has been to diversify the sources of external grant income. A systematic approach to horizon-scanning (supported by the OU's Research and Enterprise office) has enabled us to target funding opportunities (within and across institutions)

allied to our distinctive academic expertise. We have met representatives from RCUK, UK Research Office (UKRO), the British Academy and charitable trusts to discuss our research profile and inform our bidding strategy. Rigorous processes of peer review, surgeries and bespoke training sessions ensure the high quality of funding applications. We have a robust public engagement and impact strategy, involving partnerships and collaborations with users of our research, which has entailed refinement of our approaches to evidencing impact (see REF 3a/3b). We have built and strengthened strategic academic and other collaborations designed to contribute to the wider research and discipline base (see e). Key appointments have been made in our areas of excellence and to ensure academic renewal through early career appointments, informed by succession management and career development planning (see c), and we have further developed our excellent physical and infrastructural environment (see d).

Evidencing success: The success of our strategy is evidenced by: (i) internationally excellent agenda-setting research outputs; (ii) substantial external funding, increased from RAE2008, from a diverse portfolio of funders; (iii) prestigious fellowships and honours (see c); (iv) demonstrable impact of our research (see REF 3a/3b); (v) significant numbers of doctoral awards (see c); and (vi) the efficacy of our – often interdisciplinary – networks, partnerships and collaborations (see e). Strategic developments since RAE2008 have consolidated a mature, supportive and vibrant environment of excellence – evidenced by our thriving programme of research activities, collaborations and seminar/workshop/work-in progress sessions. Success can also be evidenced by recognising the excellence and distinctiveness of the bodies of published research generated by clusters beyond that of individual outputs or researchers. Through our distinctive cluster-based identity (and structure) our research strategy fosters work within the four signature areas of excellence as follows:

1. *Childhood Studies*: (Staff included in the submission: Clark, Kehily, Kellett, Kim, Montgomery, Woodhead). Positioned at the vanguard of contemporary research on childhood, we have pioneered Childhood Studies as an interdisciplinary intellectual endeavour and forged new theorisations of children and contemporary childhoods. Since 2008, this work has offered new understandings of the diversity of childhoods in ways that impact global policy and make for better childhoods and early education. This cluster has also developed innovative participatory research, including the pioneering work of the Children's Research Centre with its distinctive programmes of child-led research. [Key funding: ESRC; DFID; Oak Foundation; Bernard van Leer Foundation.]
2. *Education Futures*: (Staff included in the submission: Buckler, Chappell, Craft, Cremin, Farrington-Flint, Gjersoe, Hammersley, Hempel-Jorgensen, Ibbottson, Messer, Rix, Shohel, and Walsh). Contemporary childhoods in a digital age pose considerable challenges for the conceptualisation of education futures. The work of our Education Futures cluster is at the forefront of research providing creative solutions to these challenges, realised through partnerships that acknowledge, among other concerns, 21st century literacy identities, habits and cultures. Our visions are inclusive, engaging with the competencies and diverse needs of all learners, within both national and international contexts. Also, a distinctive body of psychological research frames new understandings of processes in early thinking and of language/literacy development. [Key funding: ESRC; AHRC; European Union (EU); DFID; Esmée Fairbairn Foundation; Ferguson Foundation; Hewlett Foundation.]
3. *Language and Literacies*: (Staff included in the submission: Cameron, Coffin, Coleman, Donohue, Erling, Goodfellow, Hampel, Hewings, Holliman, Lamy, Lanvers, Lea, Leedham, Lillis, Littleton, Maybin, Swann). Field-defining research on the centrality of language to social and cultural life is carried out by researchers in this cluster. Positioned at the juncture of interdisciplinary areas, including applied linguistics, literacy studies and sociocultural theory, we lead conceptual, methodological and analytic innovation in key areas of language and learning: academic and professional literacies; digital literacies in academic and everyday contexts; the role of English within international development; and the potential of new technologies for language learning and teaching. Distinctive sociocultural theorising also informs influential work on interthinking, and everyday linguistic creativity. [Key funding: ESRC (notably two fellowships); AHRC; British Academy; British Council.]
4. *Technology Enhanced Learning (TEL)*: (Staff included in the submission: Adams, Blake, Buckingham-Shum, Clow, Collins, Ferguson, Fitzgerald, Jones, Kerawalla, Kirkwood, Kukulka-Hulme, Lane, McAndrew, Mulholland, Price, Richardson, Scanlon, Sharples, Taylor, Thorpe, Weller, Whitelock). The OU is a pioneer and established global leader in TEL and open education.

We have the largest UK-based concentration of researchers with expertise in this field, many of whom work within the TEL cluster. As befits the OU, which provides high quality distance education for over 240,000 students, a distinctive area of research excellence concerns the theorisation and understanding of the contemporary and emerging, technologically-mediated, practices of distance, open and higher education, including the new field of learning analytics. Our programmes of work regarding technologically resourced mobile learning, inquiry learning, and non-formal and participatory learning are also world-renowned. [Key funding: ESRC; EPSRC; AHRC; EU; Hewlett Foundation; Gates Foundation; National Lottery.]

Forward strategy: Our forward strategy places the distinctive clusters of excellence described above at its core and is designed specifically to develop and enrich them. Over the next five years, our overall aim is to increase the excellence of our research (and associated outputs and impacts) and our contribution to the wider research and discipline base (see specific initiatives and priorities below). We will continue to adopt a targeted approach to bidding for research grant funding and are currently building new strategic partnerships (both internal and external) to scope and develop applications for large-scale funding and interdisciplinary initiatives. We will continue to fund (and seek funding for) research studentships allied to strategically significant programmes of work. We will also build on the potential of our new Virtual Research Environment to enrich our current doctoral training provision, especially for part-time research students. All of this is underpinned by our staffing strategy which has clear priorities for academic renewal that are sensitive to anticipated retirements, current research capacity, and priorities for recruitment. We have refined our programme of mentoring and staff development activities designed to meet the needs of researchers at different stages in their career (mindful of the imperatives of the Concordat to Support the Career Development of Researchers) and to enhance research leadership capability within our academic community (see c). Our public engagement and impact strategy has embedded impact thinking within research and planning activities. It is underpinned by a robust operational plan that will see us building on our current collaborations with users to establish user networks and communities engaged with us in participatory research (see REF 3a). We will continue to harness the power of technologies to ensure wider engagement with and uptake of our work.

Each of these aims and priorities is accompanied by an operational/implementation plan and is reflected in the targets agreed at both Centre and University levels. The Centre and the OU have robust mechanisms for monitoring progress towards achievement of specific targets and long-term objectives and priorities, including quarterly forecasting and review meetings and annual cycles of research and scholarship planning/monitoring activities – linked to both the annual business planning cycle and Career Development and Staff Appraisal process.

Initiatives of strategic importance: A key initiative of strategic importance concerns the development of programmes of research in international teacher education, which will further enhance the work of the Education Futures cluster. The OU has a history of co-developing, and researching, powerful educational initiatives in developing countries, notably in Africa [Hewlett Foundation/Ferguson Foundation], Bangladesh [DFID] and, very recently, India [DFID]. We are now systematically planning and developing allied, collaborative research agendas designed to offer new theorised insights into teacher education and development, secure large-scale impact and generate significant new sources of research grant income. To grow research excellence in this strategic area we will be appointing a Chair in the field of International Teacher Education. The University and CREET have recently funded the appointment of two research associates (Buckler and Shohel) and two research studentships aligned with this work.

Priority developmental areas: Our strategic planning has entailed the identification of a number of priority developmental areas. The Childhood Studies cluster is extending its innovation in participatory methods by, for example, investigating the potential of digital technologies to support child-led research and build communities of child researchers. Strategic university investment funding has secured the recent appointment of a research associate (Kim) to develop an allied programme of research. This work will have synergies with the new Face2Face project [National Centre for Research Methods] harnessing expertise in the sociology of childhood (Kehily and Universities of Brighton and Sussex) to develop and evaluate new qualitative research tools. We have brokered collaborations with Rutgers and Linkoping Universities, leading an alliance that is developing an international centre of excellence in Childhood Studies, supporting research and exchange schemes for doctoral/postdoctoral researchers and curriculum innovation.

The Education Futures cluster will continue to research new pedagogic practices, including the use of digital gaming to foster creativity and synergistic pedagogic relationships between science, mathematics and creativity [EU]. University-level strategic funding has secured the recent appointment of a research associate (Hempel-Jorgensen) who is developing an allied line of work concerning creative pedagogies in disadvantaged school contexts. Our work on literate identities will be developed through Rayne Foundation funding in collaboration with the Arvon Foundation. This work will be complemented by explorations of practical applications of participatory methods, the use of digital literacies involving children with Down's syndrome and collaboration with Booktrust to encourage digital writing in new groups of young people.

The Language and Literacies cluster plans to enrich existing areas of excellence, developing research in three priority areas: (i) professional literacies, in particular in the field of social work education and training (involving partnership with eight local authorities and an application for ESRC funding); (ii) communicative practices using digital technologies (involving a grant submission to AHRC, currently under review) and (iii) the teaching and learning of languages in virtual environments (involving EU funding), which will be supported by a new Chair appointment in Language Learning.

In the TEL cluster, recent Nominet Trust funding for research on citizen science enables us to develop our work on participatory forms of inquiry learning, whilst EPSRC funding is foregrounding research on technologies for e-assessment. A key strategic collaboration impacting the planning and development of our forward programme of research is that with FutureLearn Ltd (see e). This will result in field-leading research, including outputs and evidenced impacts on learning-teaching processes and practices within Massive Open Online Courses (MOOCs). New projects and outputs concerning digital scholarship/open access publishing and participatory science [Wolfson Foundation] are also in progress. A Readership in Learning Analytics has been established to consolidate leadership here.

As well as the key, and diverse, funding streams mentioned above, we are targeting EU funding and are scoping bids for Horizon 2020 across the Centre and the University, supported by the OU European Funding Officer and UKRO. Although work programmes are not finalised, we are in dialogue with a range of partners concerning 'Societal Challenge 6' and 'Science With and For Society'. We are also taking a strategic approach to scoping and developing submissions for European Research Council funding, including Starting Grants, Consolidator Grants and Advanced Grants.

Our staffing strategy is central to realising these forward objectives (see c). We are investing in senior appointments at Chair/Reader level to secure research leadership in the fields of (i) International Teacher Education and (ii) Language Learning, and also to consolidate our position as world leaders in the emerging field of Learning Analytics. Recent investment in four early career research associates and doctoral studentships ensures that we are building our capacity through early career researcher and postgraduate studentship appointments in our core areas. The recent appointment of an ICT officer will further the development of our established ICT infrastructure and enrich the use of social media and other web-based technologies to foster user and public engagement with our research (for instance, more research content is being made available through the OU's iTunes U site and other public engagement sites) and support online research at scale. In addition to well-established staff development activities, including research skills, academic writing and research grant bidding, new initiatives support the objective of developing our researchers' leadership capabilities – including a University-wide programme (the Academic Leadership Development Programme).

As detailed above, following RAE2008 we refined our research management practices and these are being developed further to configure strong research leadership teams in support of key priorities, emerging themes and activities.

c. People, including:

i. Staffing strategy and staff development:

CREET staffing policy aims to support academics at all stages of their career and to promote a collaborative research culture. Since RAE2008 our staffing strategy has been to support the strategic objectives outlined above. The post-RAE2008 strategic review enabled us to make an initial prioritisation of staffing needs and investment. This continues to be revisited and developed on an ongoing basis. Since RAE2008 we have invested in key strategic appointments – achieving our objective of sustaining and enriching our four clusters and securing both leadership and

academic renewal (see **b**). The appointments made have responded to changes in our staffing base with retirements and departures over the period. Fifteen staff appointed since RAE2008 are included in this submission. These new appointments have been made throughout the assessment period and across clusters and comprise: seven early career researchers (including our three most recent appointments, made to support the achievement of our onward strategic research objectives), seven mid-career and one professorial appointment (three further senior appointments are currently in progress) (see **b**). Careful attention has been, and is being, paid to succession management and capacity planning to ensure the research leadership and sustainability of our four signature clusters and the academic renewal of these through, for example, early and mid-career appointments (37% of the Category A FTEs returned are 55 or over).

For all appointments made, strict equality procedures were applied in recruitment and selection with monitoring of equalities data within the process. Newly appointed staff are given full access to development/mentoring opportunities and internal research funds. In addition to new appointments, we have successfully developed research leadership from within our existing staffing base: nine of the staff included in our RAE2008 submission have since been promoted to Chairs and three to Readerships. Within resourcing plans, we have been able to make business cases to retain key staff and we have successfully secured permanent posts for seven Category A staff previously on fixed-term appointments. We have also deployed bridging funds strategically to ensure retention of research staff between grants and have applied a fixed-term contract redundancy procedure that ensures that all research staff at risk of redundancy are given first opportunity to compete for new posts.

The result of our staffing strategy is a submission comprising world-leading academics (including 24 Professors and three Readers) with mature career profiles working with, and alongside, excellent research active colleagues, including seven early career staff. This high quality was underlined by the award of the prestigious Regius Chair in Open Education, conferred in 2012 in honour of the Queen's Diamond Jubilee. This recognised our outstanding contribution and distinctive excellence in this field. Scanlon is the first incumbent. Additionally, two professors have held prestigious, competitive personal fellowships. Cameron was awarded a fellowship on metaphor and empathy under the *Global Uncertainties* research programme [ESRC/AHRC]. Her approach to the analysis of metaphor and language-in-use, and her world-renowned 'discourse dynamics' approach, refined in the context of this fellowship, has enriched and developed the methodological expertise of staff and students within CREET. More broadly, her work has introduced complexity theory to researchers concerned with language, its learning and use. The outstanding international quality of this work was recognised by the Modern Language Association of America's Kenneth Mildenerger book prize (for 'Complex Systems and Applied Linguistics'). Lillis was awarded a personal research fellowship [ESRC] for *The sociolinguistics of writing in a global context* (resulting in an exceptional research contribution that was evaluated as 'outstanding' by ESRC). The monthly academic literacies forum, led by Lillis, enables CREET researchers and the wider academic community (including postgraduate students) collectively to build new knowledge and understandings. It affords important mentoring opportunities for colleagues who are authoring research outputs and developing research projects/funding applications and undertaking activities to ensure the impact of their research.

We support the professional development of all researchers throughout their careers and promote a vibrant, interdisciplinary research culture and community through a full programme of seminars, symposia and training events. The CREET Director or the Cluster Directors formally induct all new research and academic staff into the research culture and practices of CREET and the OU. All academic staff on contracts of two years or more are allocated ring-fenced research time and study leave of 79 days per annum which is a contractual entitlement. The annual cycle of research planning and Career Development and Staff Appraisal for all staff provide opportunities to identify and put measures in place (including access to funding) to support their professional and career development. We consider the needs of part-time staff and staff whose careers have been interrupted in this context. Cluster Directors and other professors provide research career guidance and leadership; mentoring arrangements for early- and mid-career researchers and peer mentoring for senior academics; access to financial support for conference and workshop presentations at UK and overseas conferences; access to financial support and facilities for pump-priming projects; and research cluster activities (including lectures, colloquia, seminars, reading and writing groups, research methods training, work in progress seminars, technology coffee mornings, learn about

fairs and a variety of events and activities designed to secure impact and foster user/public engagement with CREET research). A writers' forum and associated workshops support the authoring of journal articles and research monographs. We have also put in place initiatives intended to grow research leadership capability within our research community, including coaching. Additionally, the OU's research career professional development programme (informed by the Vitae Researcher Development Framework) provides development opportunities for researchers throughout their careers, including a mentoring programme for Black and Minority Ethnic staff.

In recognition of the OU's commitment to supporting its researchers' careers, personal and professional development and management, the European Commission has awarded us the 'HR Excellence in Research' badge. The OU is also a signatory to the Concordat to Support the Career Development of Researchers and actively implements its seven principles, regularly reviewing and updating the actions it takes in respect of these centrally and at unit level, with priorities and targets set (and monitored) as part of our business planning processes. The OU is a signatory to the Athena SWAN Charter and holds the bronze award for good practice in supporting the careers of women in science, technology, engineering and mathematics in higher education and research. The good practice which resulted in this award impacts on CREET researchers positively (many of whom have expertise in educational technology and computing) and provides an indicator of our commitment to the development of women's careers in research, including active measures in support of recruitment, retention, progression, mentoring, and career development. More generally, the OU as an institution is strongly committed to promoting diversity, inclusivity and equality of opportunity. Equality analysis and monitoring is thus undertaken, including as part of the selection of staff for submission to the REF2014.

CREET researchers and the OU maintain high standards of professional conduct in all research activities and follow standards set out in the Code of Practice for Research at The Open University. This code contextualises the detailed mechanisms and processes by which research quality and integrity are maintained. All researchers work within the parameters afforded by the OU's Ethics Principles for Research involving Human Participants, supported by the Research Ethics website, which enables researchers to access information on principles and procedures. All studies involving human participants, including those of MRes and Doctoral Studies, must be pre-approved by the OU's Human Research Ethics Committee. All researchers must adhere to the Committee's recommendations.

ii. Research students: CREET offers MRes, PhD and EdD research degree programmes. Since RAE2008 136.33 doctoral degrees (including 79 EdDs) have been awarded within CREET (REF4a), plus 26 MRes degrees (decimals arise as a consequence of co-supervisory arrangements with colleagues in other Units of Assessment). Additionally, 34 doctoral degrees (made up of nine PhDs and 25 EdDs) have been awarded to CREET students studying outside the UK (HESA aggregate offshore record, not included in REF4a). Details of HESA returned and REF4a eligible doctoral awards are as follows.

| HESA returned and REF4a eligible | | | |
|-----------------------------------------|--------------|--------------|---------------|
| | PhD | EdD | Total |
| 08-09 | 10.50 | 10.00 | 20.50 |
| 09-10 | 7.50 | 16.00 | 23.50 |
| 10-11 | 9.00 | 22.00 | 31.00 |
| 11-12 | 15.50 | 14.00 | 29.50 |
| 12-13 | 14.83 | 17.00 | 31.83 |
| Total | 57.33 | 79.00 | 136.33 |

A strategic approach to developing postgraduate research (PGR) student supervisory skills and capacity means that the majority of Category A staff are currently supervising, or have supervised, PGR students during the submission period. All research students have at least two supervisors (enabling early-career academics to gain supervision experience) and have access to an independent third party for additional mentoring and guidance. All supervisors and mentors receive initial and ongoing training and professional development through the University's Research Office and within CREET. We have a large PGR student community whose research excellence plays a key role in renewing and sustaining our strong research culture. Our students are integral to, and integrated within, the work of CREET and its four clusters. Our strategy has been to recruit high-

calibre PGR students, whose work enriches and is strongly synergistic with our four distinctive areas of research excellence, and to develop the research degrees programmes in ways that ensure academic excellence and maximise successful, timely completions. The majority of PhD students follow a full-time programme of study, whilst our EdD is a programme of part-time study explicitly designed for senior professionals in education, and related areas, to extend and deepen their knowledge and understanding of contemporary educational issues. It is a prestigious qualification that evidences skills in applied research and strong professional development.

A key strategic imperative has been to invest internal funding in our research degrees programme. Since 2008 we have fully funded 22 new full-time PhD studentships (standard maintenance grant and fees) and granted an additional four fee waivers for part-time study. Prestigious external funding includes Microsoft (0.5) who funded a studentship investigating 'Geolearners: informal learning with mobile and social technologies'. This is informing the work of CREET researchers with allied research interests (notably Jones, Scanlon and McAndrew). We have also secured matched-funding from nine other external organisations. Amongst these, studentship funding from the Hewlett Foundation helps advance our pioneering research on Open Educational Resource (OERs); studentship funding from the Royal Literary Fund is making a distinctive contribution to our programme of literacies research; and studentship funding from Sports Leaders UK is extending our work on education futures to the field of sports training. Companies, including Santander, have also provided studentship funding.

Our research degrees provision meets the requirements of the Quality Assurance Agency standards, complies with Vitae and accords fully with the OU's Code of Practice for Supervisors and Research Students. The postgraduate team, led by the Director of Postgraduate Studies, is responsible for the MRes, PhD and EdD programmes and the administration and pastoral support of PGR students, reporting to the CREET Executive Steering Group and working closely with the University's Research Office. The OU provides a central, comprehensive Research Career Development Programme for PGR students from induction to viva preparation, complementing the research methods training provided by taught courses and workshops. Students can access career services and dedicated personalised Library support. The induction programme, regular formal reporting, and a Year 1 probationary assessment ensure doctoral student progress. Training is designed to equip students with the skills and knowledge needed to plan, conduct, evaluate, and disseminate their research and to confidently engage publics and ensure impact beyond the academy. Such training also supports development of employability skills. Field-leading academics support students' training (e.g. Hammersley and Kehily: qualitative research methods/ethics; Woodhead: longitudinal designs; Richardson: quantitative methods) and we support them in disseminating their research, for instance, by funding conference attendance.

Full-time PhD students have their own personal desk space in CREET, and a £1000 annual research training grant supports conference attendance and bespoke training. Additional resource is available to support overseas fieldwork. Part-time PhD students interact with full-time students at induction sessions, research days and seminars. Support and training for part-time PhD and EdD students is tailored personally and typically comprises attendance of events/supervisions at the OU, as well as phone, letter, internet and email support. There are also opportunities for students to work together through seminars, cluster-related activities and showcase events.

Our students' success is evident in the award of prestigious external awards (Buckler was a finalist in the Guardian International Development Journalism Competition and her PhD thesis was one of the two 'highly commended' theses in the British Educational Research Association (BERA) Doctoral Dissertation Awards 2013); the calibre of their publications; and the subsequent appointment of many to academic posts. We have invested in the development of a high quality state-of-the-art Virtual Research Environment (VRE) to support the career development and training needs of all PGR students. This dedicated web portal, built to the OU's world-leading standards and aligned with the national Researcher Career Development Framework, provides access to a range of training materials and resources, ensuring parity of experience for all PGR students regardless of their physical location.

d. Income, infrastructure and facilities

Since RAE2008 we have secured £9.7m of research grant income, comparing favourably in a more challenging research funding climate with the RAE2008 submission (which totalled £9.1m). The majority of this funding has been awarded: (i) from charitable funders [notably, Hewlett Foundation, Gates Foundation, Bernard van Leer Foundation, Esmée Fairbairn Foundation,

Ferguson Foundation, National Children's Bureau], with non-UK charitable funding increasing six-fold from RAE2008; (ii) RCUK [ESRC, EPSRC, AHRC] increasing by £866k since RAE2008 and (iii) through the EU [FP6, FP7 and Lifelong Learning calls]. Funding has moved away from UK Government bodies (£2.6m in RAE2008 to £1.3m in REF2014) and UK charities (£1.8m in RAE2008 to £900k in REF2014) to a significant increase in non-UK charitable funding (£551k in RAE2008 to £3.5m in REF2014) and Research Councils (£1.6m in RAE2008 to £2.4m, in REF2014). The Hewlett Foundation has been a significant funder during this census period (£3m), as have ESRC (£1.8m), EU (£1.4m), Ferguson Foundation (£520k), UK Central Government Bodies including the National Lottery (£1.3m), EPSRC (£493k), Gates Foundation (£438k), Bernard van Leer Foundation (£165k) and Esmée Fairbairn Foundation (£132k). Our researchers have also secured commercial partnership funding for research [Fevered Sleep; Oxford Learning Solutions] and Knowledge Exchange Vouchers [Learning Tree]. In addition we have worked with the third sector through an ESRC-funded knowledge exchange project. Relevant income not captured by the HESA return includes philanthropic funding of £60k for the Children's Research Centre and £0.5m of JISC funding.

Our research funding translates into excellent outputs and many of the outputs returned in this submission arose from work funded during previous RAE periods. There is also evidence of the funding awarded in this period already yielding outputs of significance and originality. For example, from the funding returned in this submission, the outputs listed below have been returned. This information is summarised by staff member submitted, output number and funder: Adams, 2 and 3 – EPSRC; Buckler, 1 – Hewlett Foundation; Cameron, 1 and 3 – ESRC; Clow, 3 – OPAL; Collins, 2 – ESRC; Cremin, 2 – Esmée Fairbairn Foundation; Goodfellow, 1 – ESRC; Hewings, 1 – ESRC; Jones, 1, 2 and 3 – ESRC; Kellett, 1 – ContinYou; Kerawalla, 1 and 2 – ESRC; Kukulska-Hulme, 1 – EU; Lamy, 2 – Agence Nationale de la Recherche; Lea, 1, 2 and 3 – ESRC; McAndrew 2, 3 and 4 – Hewlett Foundation and 1 – EU; Messer, 3 – ESRC; Mulholland, 1 – ESRC; Scanlon, 2, 3 and 4 – ESRC; Sharples, 1 – ESRC; Rix, 1 – National Council for Special Education; Lillis, 1, 2, 3 and 4 – ESRC; Swann, 1, 2 and 4 – AHRC; and Woodhead 1, 2, 3 and 4 – DFID. Note that the OU has received a block grant from RCUK to enable research outputs arising through such funding to be made available through a 'Gold' open access format.

Our strategy for generating research income (also outlined in **b**) has been to aggregate bidding activity around the four signature clusters of excellence in ways that effectively align disciplinary and interdisciplinary expertise with the priorities of national and international funding agencies. This has encouraged collaborative and interdisciplinary bids with key investigators outside the OU. Our strategy has entailed developing a diverse portfolio of research grant income and has resulted in funding from a diverse range of funders. Such external funding has created opportunities for fixed-term contract (including post-doctoral) researchers to work within CREET.

The OU, CREET and clusters provide support for bidding activity, with the CREET Director, Associate Deans, Cluster Directors and other professors taking responsibility for horizon scanning, steering priorities, reviewing and supporting bid development. This ensures we develop high quality applications that enrich core areas of excellence. As noted earlier, a regular surgery/training programme supports the development of applications and CREET has strategically provided pump-priming for research applications in all clusters. The development of research infrastructure during the census period has supported and promoted CREET as a 'research hub' with the explicit objective of looking outwards to facilitate external project-based collaborations and partnerships.

Staff and PGR students utilise tailored, high quality research facilities appropriate to the disciplines of education and educational technology. These include a state of the art ambient technologies research facility – the Jennie Lee Research Laboratories, completed in 2008 with funding of over £17 million from HEFCE's Science Research Investment Fund. These laboratories provide CREET researchers with unmatched facilities for exploring and developing new technologies to enhance learning and pedagogy. This laboratory space has enabled innovation in educational technology research and studies of interaction between people and ambient/mobile technologies. Technical expertise supports all areas of user-centred design, testing and evaluation with a focus on usability, accessibility and developmental testing. The facility includes a gaming laboratory, accessibility laboratory, observation room and human computer interaction laboratories, podcast suite and control room.

A core element of the OU's research strategy is its investment in the creation of a technologically rich and sophisticated virtual research infrastructure. Through ongoing investment in online

services, the library provides CREET researchers and PGR students, wherever they are in the world, access to a world-class collection of digital resources and sources. Its multimillion pound investment in such services includes one of the UK's largest open access research repositories, Open Research Online (ORO) with over 23,000 OU peer-reviewed research outputs visited monthly by 40,000 individuals from around 200 countries. The central Information Technology (IT) unit develops and delivers the IT systems that underpin our research ambitions and provides effective services and support for our researchers. A new research grant-handling tool enhances support given to academics during the development of funding applications and increases the quality of post-award support offered to researchers. All our work is supported by a research and finance team comprising research administrators and secretarial staff.

e. Collaboration and contribution to the discipline or research base

Our field-defining work is generated through a powerful combination of strong individual academic leadership and effective collaborations undertaken across and beyond CREET. Fostering excellent research collaborations is a key strategic objective. We broker and nurture diverse intra- and interdisciplinary collaborations, using pump-priming funding where appropriate. We operate as a boundary-crossing nexus of excellence – harnessing expertise from across the disciplines of anthropology, applied linguistics, educational technology, education studies, languages, literary studies, philosophy, psychology, science and sociology. Given this breadth, below we have had to be selective when exemplifying and evidencing our collaborations and interdisciplinary engagements.

Evidence of national and international academic collaborations, networks and interdisciplinary research:

Our submitted outputs and case studies evidence the range and success of our national and international collaborations, the significant contributions to our field and the wider research base at both national and international levels. For example, nationally, the Personal Inquiry project [ESRC-EPSRC TEL] demonstrates our commitment to interdisciplinary collaborative research work. This linked education, psychology, educational technology and human computer interaction across the OU (Sharples, Scanlon, Jones, Littleton, Kerawalla, Collins, Mulholland, Blake) and the University of Nottingham, developing new theories, open access tools and approaches to scripting personal inquiry learning. Recognising the excellence of such collaborations, Scanlon was commissioned [by TEL on behalf of ESRC] to co-author a briefing paper regarding strategies for fostering interdisciplinary research (published 2010). At European level, we are members of large, interdisciplinary research consortia. For example, our academic leadership in creativity and participatory research [EU] has involved partners from six countries on the C2Learn project (Craft, Walsh and Chappell) and nine countries on the Creative Little Scientists project (Craft and Cremin). The latter brought together diverse disciplines (notably creativity, science and mathematics), generating new pedagogical understandings to inform European initial teacher education. The former affords insights into the creative educational potential and application of digital gaming cultures.

Our work has also involved many countries beyond Europe. For example, new understandings of special education emerged through collaboration between colleagues in 11 countries on five continents (Rix) for Ireland's National Council for Special Education, and an influential Thinking Together programme of research has been developed in collaboration with colleagues in Mexico (Littleton). Young Lives (Woodhead and University of Oxford) brought together academic colleagues from India, Peru, Vietnam and Ethiopia, linking interdisciplinary expertise in early child development, childhood studies, education and psychology [DFID], to generate understanding of and priorities for policy concerning child poverty and children's experiences of education. Additionally, 11 CREET researchers hold 16 visiting professorships (in the UK and abroad). We have also led the establishment of powerful research networks, often with global reach; for example, the Linguistic Ethnography Forum (Maybin) and a TEL network. This TEL network involves the Learning Sciences Research Institute (University of Nottingham) and the London Knowledge Lab. It enables researchers, policymakers and industry representatives to explore the nature and implications of contemporary TEL research, with events supported by the Association for Learning Technology (ALT), Intellect and the British Educational Suppliers Association. This is now fuelling collaborative writing and bidding amongst researchers in the network. Our world-renowned excellence in TEL has also enabled us to harness technology to resource international research networks and communities. For example, The Open Learning Network's (OLnet)

partnership with Carnegie Mellon University [Hewlett Foundation, McAndrew] and the OER Research Hub, have enabled researchers across the world to develop collective, theorised and evidence-based understandings of Open Learning. Through its fellowship programme (now emulated by the OER Research Hub), OLnet has enabled mobility and exchange for 30 researchers from seven countries. This has informed the formulation of our agenda-setting open education research. Our PGR students have also benefited from these networks. For example, the international research network Society for Learning Analytics Research (Buckingham-Shum with Athabasca University) provides a distributed international research laboratory (Storm) specifically for doctoral students, which complements formal supervisory support, offering platforms for seminars, discussions and peer review.

Research collaborations with industry and commerce, third sector and other users of research:

In undertaking collaborative work we actively pursue collaborations with the private, public and third sectors. Collaborations with industry and commerce are primarily linked to TEL. For example, the research-based development of 'Elmo' (a mobile language learning application) with Sharp Labs Europe (Sharples), and the first UK-led multi-institutional platform for free, open, online courses with FutureLearn Ltd (Sharples and Ferguson). The FutureLearn collaboration has informed the study and theorisation of processes of teaching-learning in MOOCs and has led to the founding of the Future Learning Academic Network involving 12 universities (Scanlon, Sharples and Buckingham-Shum). We have also collaborated with architects SCABAL and Fielden Clegg Bradley (with Cambridge University) to explore principles of primary school design (Clark), informing the development of our approach to participatory methods. Our innovation here is further evidenced by Clark's Chairing of the Young Children's Voices Network (National Children's Bureau) and by the establishment of the Heritage Forum (a research group run by people with learning difficulties) which won national access awards (DADA, 2008; Jodi, 2011) and led to an advisory role at the Smithsonian Centre (Rix).

Our collaborations with the third sector are multiple and diverse. For example, work concerning contemporary literacy practices has involved the Chartered Institute of Library and Information Professionals, the UK Literacy Association, Liverpool Find Your Talent, The Reader Organisation, and Make Believe Arts (Cremin and Swann) [Carnegie UK Trust and Esmée Fairbairn Foundation]. Furthermore, collaboration with the NGO Responding to Conflict (Cameron) is applying understandings of empathy to models and methods of conflict transformation, with practical applications to projects in Kenya and Nepal [ESRC]. The methodological innovation and dissemination activities associated with these projects sustain and enrich our research environment.

Many user collaborations entail working closely with the public sector, notably local authorities. For example, the development of educational interventions to support literacy practices (Barking and Dagenham, Birmingham, Kent, Lambeth, Suffolk and Medway – Cremin), classroom dialogue (Cornwall – Kerawalla), curriculum interventions (Milton Keynes – Messer) and case note recording in social work (Cambridgeshire, Derbyshire, Hackney, Islington, Warwickshire – Lillis). We have also collaborated with organisations such as Oxford Learning Solutions and Learning Tree International [Knowledge Exchange Vouchers] to evaluate educational interventions. Beyond the UK, our collaborations have included community colleges in the US, exploring students' mathematics and learning to learn skills (McAndrew), and in Ireland with the National Gallery and the Museum of Modern Art (Mullholland) to enrich understandings of learning in informal contexts [EU]. Our use of new technologies also led to the founding of the online Compendium Institute to enable support and collaboration with users of our argument-mapping tool, Compendium (Buckingham-Shum) as well as 'Beyond Prototypes' [TEL on behalf of ESRC], examining the impact of British innovation in Technology Enhanced Learning upon commercial products and teaching and learning.

Additionally, we are called upon by users of research to work in an advisory capacity – most notably we have advised the UK government on creative and cultural education (Craft), modern languages (Coleman) and special education (Rix). We have also undertaken research-based CPD concerning: Dialogic Teaching and Thinking Together (Littleton); Teachers as Readers (Cremin); Literacy in the 21st Century (Cremin); Creativity (Craft and Cremin); Pre-School Education [British Council] (Shohel).

Editorships, special issues and editorial boards: Our contribution to the wider research base is evident in our academic leadership as editors of nine international journals. During this assessment

period our researchers are currently, or have been, editors of significant, international, peer-reviewed journals. Thus they contribute to the shaping, framing and development of contemporary research agendas: *Thinking Skills and Creativity* (Craft); *International Journal of Educational Research* (Littleton); *Gender and Education* (Kehily); *Metaphor and the Social World* (Cameron); *Children and Society* (Woodhead, Montgomery, Kehily); *System: An International Journal of Educational Technology and Applied Linguistics* (Coleman); *Journal of Interactive Media in Education* (Jones and Weller); *Open Learning* (Thorpe); and *Digital Culture & Education* (Walsh). Colleagues also work as associate editors of: *Studies in Higher Education* (Richardson); *IEEE Transactions on Learning Technologies* (Sharples); *Language Learning and Technology Journal* (Lamy); and *System* (Hampel). Our researchers have also guest edited 17 special issues and serve on the editorial boards of 70 international peer-reviewed journals during the period. In addition, we serve as editors of influential book series including: the Routledge Psychology in Education book series (Littleton); Teaching Creatively in the Primary School (Routledge, Cremin) and the Edinburgh University Press 'Sociolinguistics' series (Swann). We have also produced influential international handbooks of research on literacy, learning and culture, and psychology of education (Cremin and Littleton).

Seminar series/conferences: We have made substantive contributions to the discipline base by leading, organising and hosting significant conferences, seminars and workshops, including three ESRC seminar series (Digital University - Goodfellow; Education Futures - Craft; Home Space - Clark); the Stanford Learning Analytics Summer Institute - Buckingham-Shum; Creativity in Language, Literature and Creative Writing (Higher Education Academy - Swann); Writing in Social Work (Higher Education Academy - Lillis); Text Trajectories (British Association of Applied Linguistics - Lillis and Maybin); Academic Literacies and Systemic Functional Linguistics (British Association of Applied Linguistics - Coffin); BERA/UKLA Annual Literacy Conference - Cremin. Buckingham-Shum was Programme Co-Chair of the 2nd International Learning Analytics Conference.

Contribution to professional associations or learned societies: We make a distinctive and strong academic leadership contribution to the work of professional associations and learned societies. Our most notable contributions within the assessment period include: Academicians of the Academy of Social Sciences (Cameron, Cremin, Hammersley, Richardson); Chair of the University Council of Modern Languages (Coleman); President of the International Association for Mobile Learning (Kukulka-Hulme); past President and executive committee member of the UK Literacy Association (Cremin); SIG coordinator, British Educational Research Association (Cremin/Craft); SIG co-coordinator for European Association into Research in Learning and Instruction (Whitelock); committee member of the British Association for Applied Linguistics (Cameron, Coffin); member of the Royal Society of Medicine Forum of Intellectual Disabilities Council (Rix); member of the (National) Committee for Linguistics in Education (Coffin); Committee for Linguistics in Education (Swann); Co-founder and executive member of the Society for Learning Analytics Research (Buckingham-Shum); Founder, Researching and Applying Metaphor (Cameron); Chair, the International Advisory Board to Open Society Foundation's Early Childhood Program (Woodhead); Convenor/Chair, BSC/UKCRC UK Grand Challenges for Computing Research 'Learning for Life' (Taylor); member, Association for Learning Technology Research Committee (Taylor); Board member, National Poetry Archive (Cremin); Board member, Booktrust (Cremin); Fellow, English Association (Cremin); Vice-Chair of Trustees, UNICEF UK (Woodhead). In addition, 11 researchers are members of RCUK peer review colleges and 14 have undertaken peer review for international research councils/funders.

To conclude, through its strategy, robust management and investments, CREET provides an organisational infrastructure and environment that has enabled our researchers to produce leading contributions to the field of educational research. Our excellent research blends intellectual originality with empirical rigour in four signature areas: Childhood Studies; Education Futures; Language and Literacies; and Technology Enhanced Learning. Both academic and non-academic communities acknowledge the high calibre of our contributions, as evidenced by the range of indicators presented throughout our submission.