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| <b>Institution:</b> University of Southampton  |
| <b>Unit of Assessment:</b> 25 Education  |
| <p><b>a. Overview</b></p> <p>Southampton Education School (SEdS) - one of five Academic Units within the Faculty of Social and Human Sciences (FSHS) - is a vibrant and dynamic community of educational researchers. Since RAE 2008, SEdS has developed into one of the leading educational research departments in the UK by strategically appointing internationally recognised staff to its four research centres, building critical mass and expertise in these areas. Since RAE 2008, the School has generated over £1.7 million in research income; appointed world-leading researchers to build on existing strengths, including four professors, a reader and twelve lecturers (4 were early career researchers (ECRs)); further expanded its already-excellent Postgraduate Research (PGR) programme, awarding 85 research degrees (See a breakdown table at the end of Section C) and winning 6 ESRC scholarships over the REF period. The School has 25 permanent full-time lecturing staff (7 Professors and 18 Lecturers/Readers) plus 9 full-time research fellows (both permanent and fixed-term), in addition to other part-time project staff. All 34 research-contracted staff are appointed to one of four research centres: <b>Lifelong &amp; Work-Related Learning (LWRL)</b> <i>Enders, Dyke, Brockmann, Kupfer, Dismore, Tomlinson</i>; <b>Social Justice &amp; Inclusive Education (SJIE)</b> <i>Nind, Parsons, Bhopal, Messiou, Hoskins, Galbraith</i>; <b>Maths &amp; Science Education (MaSE)</b> <i>Fan, Jones, Byrne, Grace, Voutsina, Bokhove, Christodoulou</i>; <b>Leadership, School Improvement &amp; Effectiveness (LSIE)</b> <i>Lumby, Muijs, Kelly, Reynolds, Downey, Kinchin</i>.</p> <p>The four centres line-manage and support research in SEdS. Each runs its own seminar programme, but these are coordinated across SEdS by a senior colleague. In the REF period, SEdS hosted 140 seminars. The Centres are led by internationally recognised researchers: <i>Jurgen Enders</i> (LWRL) (succeeded <i>Fuller</i> who left in Autumn 2013); <i>Mel Nind</i>, to be succeeded by <i>Sarah Parsons</i> (SJIE); <i>Lianghuo Fan</i> (MaSE); and <i>Jacky Lumby</i> (LSIE). The School's pro-active strategy of building research power on the basis of excellence in a restricted number of areas of <b>optimal size</b> (c.f. Kenna &amp; Berche, 2011) is reflected in its recruitment (and retention) policies, as well as in its thriving PGR environment and in the broad range of its income sources. The location of SEdS within FSHS, alongside allied disciplines, such as Psychology, Mathematics and Social Sciences, has encouraged interdisciplinary research, joint programmes and PGR training delivered through Southampton's ESRC-funded Doctoral Training Centre (DTC) in which SEdS is an important partner. <i>Lumby, Kelly, Nind, Bhopal &amp; Jones</i> are members of the ESRC Peer Review College, and a total of 19 colleagues formally peer-review for overseas research-awarding bodies.</p> |
| <p><b>b. Research strategy</b></p> <p>SEdS is committed to carrying out research that is world-leading in terms of its originality and significance. It aspires to be recognised internationally for research that is agenda-setting and has positive impacts on society, the economy and the environment, capitalising on our distinctive interdisciplinary strengths to address key national and global challenges and bringing together different theoretical perspectives and methodological approaches. The School aims to maximise the impact of its research through close collaboration with practitioners and policymakers, and through the widespread but targeted dissemination of its research. The pillars of the School's research strategy are: (1) <b>excellence</b> through world-leading, original research; (2) <b>investing in and incentivising people</b> including ECRs and PGRs; (3) making an <b>impact</b> by addressing the big national and global issues; (4) engaging in <b>inter-disciplinary research</b> with a range of national and international partners. This strategy has developed strongly since RAE 2008. The disappointing RAE outcome prompted a review of the School by external experts which confirmed the weaknesses of the previous strategy. The review supported an enhanced and transformational strategy which sought to reverse a lacklustre research culture by ensuring critical mass in areas of international strength supported by strong leadership. New management was immediately put in place, with <i>Lumby</i> as Head of School (HoS) and <i>Kelly</i> as Director of Research (DoR). <i>Kelly</i> took over as HoS in 2011 with <i>Muijs</i> currently DoR. Hard decisions were made to disinvest from areas that did not contribute sufficiently to research, such as closing both <i>Sports Science</i> and the <i>Pedagogy &amp; Professional Practice</i> research centre. With support from the Faculty and University, at a time of retrenchment in Education across the sector, the School made appointments of leading</p>  |

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researchers to build critical mass in selected research areas and to provide directive and ambitious support for junior colleagues. At professorial level: *Muijs & Reynolds* were appointed to LSIE, *Fan* to MaSE, and *Enders* to LWRL. In addition to 12 lecturers / senior lecturers across SEdS, *Parsons* was appointed to SJIE as Reader. All our research outputs are linked to these 4 'themes' and in the REF period, staff have produced more than 700 REF-able outputs. We believe that we have transformed the School's research culture through targeted bidding and appointments.

**Leadership of LWRL** Research in LWRL focuses on higher and work-based education, the economy and society. Members research the shifting patterns of participation in (and transitions between) FE, HE and Adult Education; at work, in the community and in formal settings and at different life-stages. This had led to an interest in pedagogy and digital technologies as a way of enhancing learning and widening access. LWRL is explicitly linked to public policy formation in the areas of qualifications, apprenticeship, skills and employment in national, EU and international contexts. HE, as the second major research theme within LWRL, is led by one of Europe's leading HE academics, *Jurgen Enders*, formerly Director of the Centre for Higher Education Policy Studies (CHEPS) at the University of Twente. *Prof Enders* has advised several EU governments on HE policy matters, and *Prof Fuller* (who led the Centre until the appointment of *Enders*) has advised governments on work-related / apprenticeship matters and has appeared before the Education Select Committee. A range of major funded projects have been undertaken in the REF period, including four ESRC (£461k), Nuffield (£116k), 3 EU (£142k), Gatsby Foundation (£83k), Learning & Skills Council (£30k), NHS (£22k), Lifelong Learning Network (£26k), Edulink (£38k), the HEA (£20k), and others like the DfE, British Academy, Leverhulme, the Equal Opportunities Commission and the Greek government.

**Leadership of LSIE** Academics at LSIE employ a range of quantitative and qualitative approaches, with an emphasis on mixed-/multi-method research in four main areas: institutional improvement; effectiveness; leadership, and equity. The Centre is particularly expert at analysing large datasets - not just measures of cognitive student outcomes, but also affective, social, emotional and 'political' outcomes – and in developing innovative modelling techniques for the analysis of policy. Major research projects have included, funding by CfBT (£29k), two ESRC/EPSRC (£179), AimHigher (£18k), Fischer Family Trust (£52k), the Audit Commission (£20k), Goldman Sachs (£98k), the Royal Society (£14k), the EU (£208k), QCA (£107k), various local / national government departments & agencies (£97k) and others such as DfE, NHS, TDA and NCSL. PG research is also wide ranging, including, for example, studies on school effectiveness in Mexico and Thailand, gender and leadership in South Africa and the association between citizenship and economic development across the EU. In terms of professorial leadership, *Kelly* has appeared before the Education Select Committee; *Muijs* advises the Flanders and Chile governments; *Reynolds* advises the Wales and Malaysia governments; *Lumby* advises the South African government through the Commonwealth Foundation.

**Leadership of MaSE** MaSE incorporates the nationally funded *Science Learning Centre* for the south-east region of England (recently expanded to become a university-funded centre for mathematics and science learning). MaSE works with learners, teachers, schools, and regional, national and international organisations, to research ways of advancing learning / teaching in STEM subjects and Medicine, and to inform policy nationally and internationally. MaSE focuses specifically on six themes: conceptual development; education for sustainability and citizenship; embedding ICT in teaching and learning; health education; mathematical / scientific reasoning; and visual & spatial thinking. The Centre is a stakeholder in the National Centre for Excellence in the Teaching of Mathematics, and several members (e.g. *Jones*, *Edwards*) serve on its committees. MaSE is also an associate of the DCSF Further Mathematics Support Programme. Funded research projects have included, RCUK (£205k), BUPA (£150k), EU (£340k), AstraZeneca (£40k), NHS (£70k), Royal Society of Chemistry (£44k), the Medical Research Council (£13k), Nuffield (£19k), National Science Learning Centre (£187k), HEFCE (£15k), the Wellcome Trust (£36k), NCETM (£26k) and others like the DfE and the TDA. The Centre has a very successful track-record in winning PGR studentships and post-doctoral fellowships from the ESRC, WUN, ORS and internally with university scholarships. *Prof Lianghuo Fan*, who leads the centre having joined SEdS from Singapore in 2010, is a world authority on learning from mathematics textbooks, and advises several 'Pacific Rim' governments. *Keith Jones*, his predecessor, was an invited member of the International Committee for the 10<sup>th</sup> & 11<sup>th</sup> *International Conferences on Teaching Math with*

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*Technology, the International Conference on Technology, Creativity & Affect in Math Problem Solving* and is a committee member of the International Group for the Psychology of Math Education.

**Leadership of SJIE** SJIE conducts a range of enabling research on participatory and inclusive methods, 'voice' (of different communities), and evidence-based SEN practice. The Centre has six diversity themes: SEN & autism, race & ethnicity, gender and sexual identities, citizenship and poverty, cognitive processes in literacy and digital inclusion. Research done in SJIE spans the areas of pedagogy, methodology, technology, and curriculum and professional development as it explores factors, nationally and internationally, which support or impede educational and social opportunity, empowerment and access. SJIE has won major research grants from, for example, the Autism Education Trust (£80k), ESRC (£369k), the EU (£232k), and national and international organisations like Sussex County Council, World Universities Network, TDA & Paul Mellon. *Prof Mel Nind*, who has led the Centre, advises the National Council for Special Education in Ireland and the Care Quality Commission. *Sarah Parsons*, who is a SEdS Reader and succeeds to the leadership of SJIE after the REF, has advised the National Council for Special Education (Ireland), the Autism Education Trust and gave evidence in 2009 to the Lamb Inquiry. *Kalwant Bhopal*, another Reader, is the School's PGR Director, and has advised OFSTED, HEFCE and the Leadership Foundation for HE on equality (black and minority ethnic) matters.

**Special Interest Groups (SIG):** In addition to its four Research Centres, the School's research structure has a 'cross-weave' of SIGs to allow for the 'bottom-up' development of emerging research areas. Currently (and for the last 4 years) there are SIGs in Quantitative Methods, South-East Asian studies, Initial Teacher Education and HE, the last of which has attracted membership from across the University and externally (e.g. Prof Roger Brown, former Vice-Chancellor at Solent University; Prof Nick Foskett current Vice-Chancellor at Keele). Membership of SIGs is voluntary but must come from more than one Research Centre. They are set up with financial support, provided a case can be made regarding critical mass and a vibrant programme of activities.

**Our research strategy going forward is:** (i) to develop deeper our four centres of excellence, while maintaining our focus on a limited number of (optimally staffed) areas in which we can be world-leading; (ii) following *Prof Fuller's* departure (Michaelmas 2013) to the Institute of Education, to shift the focus of LWRL away from apprenticeships and more towards HE – we have already received authorisation from the University to make a number of appointments, including chairs, to join *Enders* and existing lecturers *Dyke, Tomlinson, Brockmann, Dismore* and others in setting up an 'International Centre for the Study of HE'. It will be one of the largest in the EU (CHEPS at University of Twente, has 12 f.t.e. and the International Centre for HE Research in Germany has 10 f.t.e.), and will have input from economists, management specialists and demographers (and will link strongly in terms of methodology with LSIE, SJIE and MaSE); (iii) to continue to nurture and grow our ECRs and PGRs through ring-fenced funding, such as the University's '*Strategic Interdisciplinary Research*' and '*Adventures in Research*' funds (to date, SEdS has been one of the most successful departments in the University, accessing around £30K for ECR projects in the past 3 years); to continue to target high-prestige and third-sector funding opportunities.

### c. People, including:

#### i. Staffing strategy and staff development

SEdS made a range of senior appointments **early** in the REF period in support of its four Research Centres: (a) LSIE: 2 Profs (*Reynolds, Muijs*) and a Lecturer (*Downey*) to add to existing strength in effectiveness and quantitative methods; (b) SJIE: a Reader (*Parsons*) and 3 Senior Lecturers (SL) (*Messiou, Galbraith, Hoskins*) to strengthen research in autism, education psychology, citizenship and quantitative methods; (c) MaSE: *Fan* was appointed to provide leadership in Mathematics education, and *Bokhove* (mathematics) and *Christodolou* (science) were appointed as Early Career Lecturers; (d) LWRL: 1 Prof (*Enders*), a SL (*Kupfer*) and 3 Lecturers (*Tomlinson, Dismore* (ECR) and *Brockmann*) in the areas of HE and EU-facing lifelong learning research. SEdS has been strict in its appointment practices. All appointments have been permanent, but we recruited a mix of experience and ECR from an **international** pool of talent, attracting leading researchers and young talent from Singapore/China (*Fan*), Greece (*Christodolou*), Netherlands (*Bokhove, Rietdijk-RA*), Germany (*Enders, Brockmann*), Austria (*Kupfer* via Harvard), Ukraine (*Rumyantseva* via Vanderbilt), Belgium (*Muijs*), and from the UK of course.

**Supporting staff in their research:** Each of the four Research Centres provides ‘clinics/surgeries’ for peer-reviewing papers and grant applications. A mentoring system operates for all staff, as well as a staff development fund of £250 per person per annum plus a staff conference fund of £650 per person per annum. Furthermore, a proportion of the overheads from funded research are retained by the relevant Research Centre for use in building capacity and research development activities. A proportion is also retained by the Principal Investigator and Co-Investigator(s) to support *their* research activities. SEdS has a thriving ECR community which currently includes 4 entry-level lecturers, 5 ECR staff, and 12 full-time research fellows/research assistants (RA). New lecturers are given an initial reduction in their teaching loads and they must undertake joint supervision of PGR students with experienced colleagues. All ECRs are supported through both School and University induction programmes, and by the University’s **Concordat** to support the career development of researchers and **Vitae**. The University has a bronze award of the Athena SWANN programme. ECRs are recognised and rewarded where appropriate through annual Vice-Chancellor’s Awards and have access to online mentoring resources and to one-to-one coaching through specific initiatives such as FutureStep, a bespoke 10-week programme cited by Vitae. ECRs are also assigned a senior line-manager who guides them through probation and advises them on their emerging research plans, plus a mentor (not their line manager) who advises them on career progression matters and how to manage research and teaching loads. The University and the Faculty Graduate School organise various research workshops with the School for ECRs (e.g. ‘Applying for your first RCUK grant’) and there are many ring-fenced funding opportunities (e.g. the annual ‘Adventures in Research’ competition and the Faculty Strategic Interdisciplinary Fund both prioritising ECRs). In fact, SEdS staff have **led** some of the university-wide workshops – e.g. Woods-Townsend (RA in MaSE) leads Public Engagement Training – and SEdS has been one of the most successful departments in bidding to these programmes for funding, with 3 grants won since 2010 alone. ECRs & PGRs can access funds to support travel and skills training, and are represented on all SEdS committees.

All staff may apply for 1 semester sabbatical leave every 4 years of service by submitting a research proposal to the School’s ‘Academic Unit Research Excellence Group’ (AUREG), chaired by the Director of Research. At the end of a sabbatical period, the individual must produce reports of their activities and outcomes, and these are monitored by AUREG. During the REF period, a total of 34 half-year (semesters) of sabbatical leave were granted to SEdS staff. Staff can also apply for a shorter period of research leave for specific purposes. Equality of opportunity is promoted by the principles and guidelines of the University’s Equality Plan to which SEdS was a major contributor (*Bhopal* with funding from EPSRC). During the REF period, five SEdS staff were promoted from Lecturer to Senior Lecturer, three Lecturers left the university for Chairs elsewhere, and one Professor left to become a Vice-Chancellor.

## ii. Research students

Recruitment and training of PGR students is a key area of strength in SEdS, with its current cohort of 125 PhD and EdD students spread over 4 years full-time and 6 years part-time. SEdS has a completion rate near 100%. Our success is also evidenced by the number of scholarships gained in the REF period: 5 ESRC studentships and 10 Vice-Chancellor scholarships (whose aim is to attract the best students internationally to the University). Many of our PGR students are supported by their employers (e.g. currently: Hampshire County Council, Bournemouth University, British Army, and various police authorities) or in the case of international students, by their governments (during this REF period: Saudi Arabia, Thailand, Brunei, Kuwait, Malaysia, USA, India, Trinidad, Pakistan, Oman, Qatar, Dubai, UAE, China, Singapore, Czech Republic, Hong Kong, South Africa, Kenya, Uganda, Nigeria, Spain, Canada, Jamaica, Egypt, Taiwan, Mexico, Bangladesh, Iraq, Indonesia, Germany, Greece and others). Many PGR students go back to practice, but about half go on to academic careers or to appointments in policy settings (e.g. *Sumner* as ‘specialist’ on the Education Select Committee). Two SEdS PhD graduates are current Vice-Chancellors at UK universities (*Foskett, Keele; Nutbeam, Southampton*). SEdS is a partner in the University’s ESRC-funded DTC and in the ‘Webscience’ and ‘Complexity Science’ DTCs, providing subject-related and core quantitative and qualitative research methods modules. SEdS has one of the largest PGR student populations of any department in these DTCs. Approximately one-third of the 125 PGR students are currently full-time, but this percentage is increasing (e.g. two-thirds of the 2011-12 intake was full-time). PGR students are based in the main SEdS building allowing for frequent

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interaction with tutors and enabling strong peer community support. There is also a separate 'strictly quiet room' for students in their final year. Part-time students have access to a hot-desk with the same facilities in the PGR student area. All students are members of one of the four Research Centres, usually that of their Lead Supervisor, and organise their own informal seminars to provide presentation practice. All PGR students have access to the resources of the main Hartley Library and the small bespoke Education Library. All students have access to funding for conference attendance and bespoke training, amounting to £750 per full-time PGR student and £375 per part-time student. Students present at conferences nationally and internationally, e.g. SEdS has had fully-funded PGR student presentations at every ICSEI and BERA conference during this REF period (and many other conferences in Europe and the Americas in addition), and one of our (then) PhD students, *Chris Downey*, now a member of staff, was the Student Rep on the ICSEI Board from 2009 to 2012. Most of our PGR students publish at least one paper in a peer-reviewed research journal during their period of study.

Continuous research training is compulsory for all PGR students. Full-time students are required to complete 3 compulsory and 1 elective modules in their first year; part-time students are required to complete a module and a piece of assessed writing in both first and second years. SEdS has also introduced opportunities for students to contribute to seminar-teaching where this is beneficial and appropriate, under the supervision of a senior colleague.

The Faculty co-ordinates generic PGR activities and training across all its academic units to supplement discipline-specific training. For example, the Southampton Statistical Sciences Research Institute (S3RI), arguably Europe's leading social statistics faculty which analyses and advises the UK Census, delivers advanced statistics courses to SEdS students. Upon admission, each PGR student is assigned a supervision team with a lead supervisor who is expert in the field of study. The School, which is significantly oversubscribed annually, does not accept students if there is insufficient expertise in the proposed area of study. Supervisors from other disciplines (e.g. Psychology, Political Science) add methodological and/or subject expertise. EdD students are assigned pastoral supervisors during the taught phase of the programme, and a supervisor on submission of their research proposal (same as a PhD student). The progress of each student is continuously monitored, aided by Southampton's bespoke (patented) web-based 'PGR Tracker', which is accessible to students, supervisors, programme directors and relevant administrators. Training needs, progress milestones (annual reports, transfer of registration from MPhil to PhD, etc.), and meetings with supervisors are all recorded. All PGR students have access to a dedicated section of the University Careers Service. To ensure a relevant, flexible and high-quality experience for all PGRs, including delivery of a researcher development programme, the School and the University has instituted a major new approach to PGR development led by 'Vitae'. In 2012/13, the programme delivered more than 250 training sessions to over 4,300 attendees. PGRs also have the opportunity to participate in intensive training and development activities (e.g. summer schools such as 'Cumberland Lodge: Life Beyond the PhD'; and 'RENKEI'). Late-stage PGRs, especially our EdD students, are specifically supported through 'Career & Leadership' residential programmes.

### PhDs and research-based professional doctorates awards – academic year 2008-13

| UoA 25 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | Total |
|--------|---------|---------|---------|---------|---------|-------|
| PhDs   | 8       | 10.5    | 18.7    | 7       | 10      | 54.2  |
| EdDs   | 5       | 4       | 10      | 7       | 4       | 30    |

#### d. Income, infrastructure and facilities

**Research Awards and Research Income:** In the REF period, SEdS' research income (as opposed to consultancies) was over £1.7 million, obtained from a very wide range of funding bodies, including ESRC, RCUK, Nuffield, the DfE (as it now is), various Higher Education bodies, the QCA, the Equal Opportunities Commission, various regional Development Agencies, the EU, Fischer Family Trust, Audit Commission, Goldman Sachs, Royal Society, the States of Jersey and other UK, European and overseas governments, the NCSL and TDA (as they then were), the Wellcome Trust, the Autism Education Trust, CfBT, BUPA, Medical Research Council, and various local government agencies and authorities.

**Research Infrastructure:** University infrastructure expenditure since the RAE 2008 has increased 41% on capital projects, 19% on Library Services, 25% on staff training, and 138% on staff

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development. Research governance consists of 3 Advisory layers: (1) at University level (chaired by the Pro-Vice-Chancellor Research and Enterprise) with membership comprising Faculty Associate Deans for Research and Enterprise); (2) at Faculty level (chaired by each Associate Dean) with membership comprising Directors of Research from Schools/Academic Units); and (3) at School level, AUREG, chaired by the Director of Research, comprises the Heads of the four Research Centres and the PGR Director. There is a range of School ('*Strategic Development Fund*' and '*Staff Development Fund*'), Faculty ('*Strategic Inter-disciplinary Research Fund*') and University ('*Adventures in Research Fund*') support for research network formation and consolidation, and seeding ideas. These internal funding structures also provide opportunities for capacity-building for ECRs by providing them with application-writing, peer-review and project management experience.

SEdS supports and stimulates high-quality research and impact in the following five ways: (1) AUREG develops the School's research strategy and supports the development of the four Research Centres and the School's SIGs. The Director of Research (as chair) liaises with the Associate Dean and the University's Research and Innovation Services (RIS) to exploit interdisciplinary opportunities. (2) RIS (a specialist department with over 60 staff) disseminates funding opportunities, provides bid support, monitors ethics clearance and alongside Legal Services, supports the management of contracts (such as the School's two Knowledge Transfer Partnerships). A dedicated EU Office supports applications to, and projects funded by, the EU. RIS also provides training and workshops focused on winning grants, and gives dedicated support and expertise to facilitate interaction with external partners. One of our major partners is the British Army: we have the UK contract to train (and qualify as teachers) all the Army's Education and Training (DETS) officers, and many go on to do doctoral research. (3) Interdisciplinary research is a vital element of the research strategy. Members of SEdS play leading roles in some of the University Strategic Research Groups (USRG) and interdisciplinary initiatives (e.g. *Fuller* co-leads the Work Futures USRG; *Grace* leads the 'LifeLab' initiative on youth health with Medicine; *Kelly* is a member of the 'Energy Futures' USRG with colleagues from Engineering and Physics; *Hoskins* is on the 'Public Policy at Southampton' group, an external-facing, research impact-enhancing unit co-ordinating annual competitions for policy commissions and workshops across the University. These all receive dedicated support from RIS and annual grants from the University to supplement external funding. (4) The Graduate School provides dedicated support for PGR matters, including the administration of student awards, bursaries, our annual post-graduate conference and ESRC DTC studentships. (5) The University's 'iSolutions' service provides IT support to all academics and PGR students in SEdS. The Hartley Library provides support for the ePrints Repository for open access of research outputs.

**Facilities:** As well as excellent ICT and office facilities, SEdS stands out for its excellent facilities in, and development of, technology-enhanced learning (TEL) and related teaching / learning materials. These facilities are used for research collaboration and to extend the reach of the School's research capability. The School has its own TV studio/Digital Media Centre for video conferencing, recording and web broadcast, and supports the development of innovative multi-media research. The facilities are widely used by PGR students as well as by staff (and colleagues from other departments) for the dissemination of research.

#### e. Collaboration or contribution to the discipline or research base

Our staff profile (from 10 countries and the UK) is one of the most diverse in UK Education in terms of country-of-origin. Strategically we are outwardly-focussed and collaborate nationally and internationally. Our research strategy, outlined in sections above, has led to a continued improvement in our research profile over the last 5 years as evidenced by our growing participation rates in national and international collaborations and conferences; for example, SEdS had 10 academics presenting at AERA in 2013 (pro rata, certainly one of the highest participation rates in the UK) and has presented more papers than any other UK education department at recent ICSEI conferences.

**National and international collaborations:** Members of SEdS participate in a wide range of networks, playing a leading role in professional organisations and in interdisciplinary research settings, government councils and international organisations. Here are **some examples:** In **LSIE**, *Muijs* and *Downey* are Board members of ICSEI (*Muijs* is currently its elected treasurer). *Kelly* is an elected Fellow of the Institute of Physics and an elected Academician of the Academy of

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Social Sciences. *Reynolds* is Vice-President of the Welsh Dyslexia Project, a member of the Welsh Assembly External Reference Group on Dyslexia, Senior Policy Adviser to the (Wales) Department for Children, Lifelong Learning and Skills, chair of the Innovation Trust, and Member of the Board/Director of E-ACT Academies. *Lumby* is a member of the board of the Commonwealth Council on Educational Administration and Management, plenum member of the US University Council for Educational Administration (UCEA), consultant to the European Policy Network on School Leadership, and Advisor to the Equality Authority of Ireland.

In **SJIE**, *Bhopal* leads BERA's Race & Equality SiG, and is chair of the National Association of Multicultural Education conference committee. *Galbraith* was (2007-2011) a member of the management committee of the British Psychological Association's Educational Psychology section, and is currently a member of the steering committee of the International Society for the Advancement of Writing Research. *Nind* is co-director of the ESRC National Centre for Research Methods. *Parsons* is a member of the steering committee for the Innovative Technology for Autism initiative 'Autism Speaks' in the US.

In the **MaSE** research centre, *Edwards* was (2007-11) a member of the executive committee of the British Society for Research into Learning Mathematics, and is currently chair of the programme committee for its national conferences. *Fan* was (2009-10) a member of the Mathematics Syllabus Working Committee at the Singapore Ministry of Education, an International Member of the National Committee on Standards of Mathematics Curriculum in Qatar, a member of the Advisory Panel of the Chief Executive's Award for Teaching Excellence at the Hong Kong government, and an expert reviewer for the Welsh government and the Royal Irish Academy. *Grace* is a Fellow of the Society of Biology, chair of the CPD sub-committee of the National Darwin 2000 Committee, a member of the Assoc. for Science Education national Outdoor Science Working Group, secretary of the Assoc. for Teachers of Science Education national committee (until 2009), a member of the organising Committee of the European Research in Didactics of Biology and a board member of the Society of Biology's Education & Policy Committee. *Jones* is a committee member of the International Group for the Psychology of Mathematics Education (PME), convenor (1995-now) of the Geometry Education working group of the British Society for Research into Learning Mathematics, and an invited international advisor to the Portuguese Research Council.

In **LWRL**, *Fuller* (2004-2013) was an invited member of the Skills Commission which supports the All-Parliamentary National Skills Forum, and a member of the Funding Agency Cooperation in Europe (Welfare State Futures Research Evaluation Panel). *Enders* is an Honorary Fellow of the Society for Research in HE, an elected member of the German Academy of Science and Engineering and of the Academia Europaea, a member of HEFCE's Strategic Advisory Committee for Research & Knowledge Exchange, a member of the Advisory Council to the German Ministries for Education and a member of the advisory board of the Swiss Science and Technology Council. *Kupfer* is Thomas A. Schumpeter fellow at Harvard University.

SEdS staff are highly committed to collaborating with policy-makers and practitioners, and many staff members have received accolades for their work and expertise in this respect. **For example:** *Reynolds* received a CBE for services to education and was appointed to advise the Welsh Assembly Government, *Kelly* and *Fuller* (2004-2013) both provided evidence to parliamentary Select Committees on a number of occasions, *Fan* advised the governments of Singapore and Qatar, and *Muijs* the Flemish government. *Fuller* is an expert member of the UK Commission for Employment and Skills, and has provided advice to a range of UK government committees, including the influential Richard Review on Apprenticeship. Another noteworthy example of a highly successful collaboration across disciplines and with practitioners is the 'Lifelab' project, which involves staff from SEdS (leading the project) working with the University's Faculty of Medicine designing programmes to enable 11-16 year-old students to discover first-hand how their diet and lifestyle set the foundations for a healthier life for themselves and their children. 'Lifelab' was funded initially by the Wellcome Trust and the Medical Research Council, and now is funded by the Biomedical Research Unit and BUPA. Also in MaSE, *Edwards* was (2008-11) a member of the executive of the British Society for Research into Learning Mathematics [2008-2011] and is (since 2007) a member of the executive of the Association of Mathematics Education Teachers.

**Esteem and contribution to the discipline:** All four research centres have contributed significantly to the development of their field during the REF period. **LSIE** staff have contributed new (award-winning) methods for measuring equity (*Kelly*), including the development of new equity indicators trialled in Thailand and now being used in Jersey. We have also offered new

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insights into gender and school leadership (*Lumby*) and have developed the theory and practice of educational effectiveness through the work of *Reynolds* and *Muijs* (who have, as a result, received major commissions to provide overviews of the field and edit international handbooks). LSIE staff are collectively members of 12 journal editorial boards, edit 5 journals (incl. *School Effectiveness and School Improvement*), and are members of 7 international committees and advisory boards.

**LWRL** staff members are at the forefront of linking career decision-making, learning through the life-course, and the design and utilisation of digital technologies in innovative ways that are having a major influence on the field, with *Fuller* (2004-2013), *Dyke*, *Brockmann* & *Dismore* all leading a range of studies on post-compulsory education and training. *Enders* is one of Europe's leading experts on Higher Education. LWRL members serve on 5 journal editorial boards and on 7 international committees and advisory boards. The centre has also been a key founding member (with the IoE) of the ESRC national centre for 'Learning and Life Chances in Knowledge Economies & Societies' (LLAKES).

**SJIE** members are contributing innovative inclusive research methods for involving people with learning disabilities (e.g. the ESRC-funded 'Quality and Capacity in Inclusive Research' project led by *Nind*), world-leading research on the use of technology to support children on the autism spectrum (e.g. the EU-funded 'Cospatial' project led by *Parsons*), and the Centre's work on Traveller and Roma education (*Bhopal*). Collectively, SJIE staff sit on 16 editorial boards, edit 4 journals (incl. *International Journal of Research and Method in Education - Nind*; *Women's Studies International Forum - Bhopal*; *Journal of Writing Research - Galbraith*), and are members of 8 international committees and advisory boards.

**MaSE** is contributing to the development of Mathematics and Science education nationally and internationally, with innovative work on curriculum development in both Mathematics and Science, and ground-breaking cross-disciplinary collaboration in science, such as the '*LifeLab*' project led by *Grace*. MaSE staff are collectively members of 8 journal editorial boards, edit 2 journals (*The Mathematics Educator*; *Journal of Biological Education*), and are members of 5 international committees and advisory boards. *Voutsina* was a BERA 'Meeting of Minds Fellow' in 2011-12 and an invited member of the Ministerial Round table on issues of mathematics pedagogy (DfE, 2010), and *Garrett* (RA) serves on Institute of Physics education committees.

**Keynotes:** Esteem can also be demonstrated by indicators such as keynote lectures. SEdS staff delivered 55 invited keynote lectures over the REF period. **For example:** In the **SJIE** research group, *Bhopal* presented a keynote for BERA at the AERA annual meeting in 2010, *Galbraith* gave the inaugural lecture of the Porto Writing Group at the University of Porto in 2012, while *Nind* has been invited to speak at a range of conferences aimed at policymakers and practitioners in the field of inclusion, such as the 'Us in a Bus - Linking Lives' conference in 2010 and the Fourth Annual Conference on Learner Identity in 2012. In the **LSIE** research group, *Muijs* has given 13 keynotes over the REF period, including the keynote presentation at ICSEI in 2008 and other keynote symposia at ICSEI in 2011, 2012 and 2014, a keynote debate at the BERA annual meeting in 2011 and a range of practitioner-oriented conferences. He also presented a major keynote speech for 'Fundacion Chile' in Santiago in 2013 (attended by the Chile Minister of Education). *Reynolds* presented ICSEI keynote symposia in 2011 and 2012, and *Kelly* likewise has done a range of keynote presentations (incl. the prestigious International Business Leaders Forum in Moscow), as has *Lumby* (incl. the annual conference of the Commonwealth Council on Educational Administration and in 2011 to the consultative forum of UNESCO). In **LWRL**, *Dyke* was the keynote speaker at the East China Normal Teacher Education Conference in 2013, while *Enders* has presented a range of keynote speeches at HE conferences across Europe (incl. Slovenia, Germany, Switzerland, Sweden & the UK) and Tomlinson gave a keynote at the University of Nova da Lisboa in 2013. In the **MaSE** research group, *Fan* has been a keynote speaker at a range of conferences across Asia, including the prestigious International Conference on School Mathematics Textbooks in China, while *Grace* has presented a range of international keynotes on science education, including a health conference at the School of Medicine of the Chinese University of Hong Kong. *Jones* gave invited plenaries at the *International Conference on Future Curricular Trends in School Algebra and Geometry* in Chicago (2008), at the *3rd International Symposium on the History and Pedagogy of Mathematics* in Beijing (2009) and at the *13th Portuguese Research Conference in Mathematics Education*, Coimbra (2012). Members of SEdS have externally examined approx. 80 doctorates during the REF period, and are all members of at least one national and one international education research association.