

<p>Institution: University of Aberdeen</p>
<p>Unit of Assessment: Education</p>
<p>a. Overview</p> <p>The School of Education, located in the College of Arts and Social Sciences (CASS), is a small unit with a distinctive research portfolio which actively spans professional practice in lifelong education from the early years through to elderly adults in both formal and informal settings. Such diversity is integrated into a seamless approach to shared existing and emerging research relating to life course learning and partnership engagement through specific themes and expanding networks. The University of Aberdeen's research strategy in the Five Year Strategic Plan is overseen by two Vice-Principals, supported by a Research and Innovation administration department. Within CASS, the research strategy is monitored by the College Research Committee. The College system ensures that University research policy is embedded in Schools by providing a locus for cross-disciplinary collaboration and shared interests. CASS also supports individual school's research strategy by encouraging distinctiveness. Increasingly, interdisciplinarity is being promoted and cross-college pathways are forged through four distinct university-wide research themes. The School is currently active in two of these themes: the North and Pathways to Healthy Living. Education's recent success in bids to the CASS Research Project Award Scheme (RPAS) has resulted in twelve fully-funded PhD studentships over four years.</p>
<p>b. Research strategy</p> <p>Three coherent themes frame our research portfolio: <i>Pedagogy and Innovation</i> applies to the education of children of all ages and to adults, with a particular focus on innovative approaches to learning. Examples include technology-enhanced learning (Coyle), e-learning and on-line teaching (McArdle), outdoor learning (Gray), inclusive practice (Ravet), bilingual education and integrated learning (Coyle) (CLIL - Content and Language Integrated Learning) and Gender (Ivinson). <i>Professional Learning and Teacher Education</i> focuses on teacher development involving both policy and practice, spanning early years, primary and secondary education contexts - from initial teacher education to career-long continuing professional development (Colucci-Gray, Mtika, Shanks). In addition, our research interests extend to learning in the related professions such as healthcare. <i>Communities and Partnerships</i> involves community and adult education, including adult literacies, community development, counselling and youth work (Forbes, McArdle, Ackland, Ivinson). It also embraces research linked to children's services including social work and medical education.</p> <p>The three themes cohere around an emphasis on professional learning and practice which have successfully developed context-rich professional networks and research active partnerships. Many of these involve practitioner-research, participatory inquiry and collaborative research with major stakeholders including pupils, teachers, local authority and community workers which seek to bring together theory and practice, scoped and exemplified in this submission. The research themes reflect and demonstrate a range of methodological and theoretical expertise enabling individuals to pursue personal research goals as well as identifying with the research priorities of the School. They also guide wider networking, collaborative outputs and income generation within the context of improving professional practice. Some projects bridge more than one theme. For example Ackland's research into the pedagogy of adult literacies connects the <i>Communities and Partnership</i> theme with <i>Pedagogy and Innovation</i></p> <p>Our research is set within the rapidly changing policy and practice context of Scottish education, which we use to underpin and enrich contributions to international research and to guide but not direct our work in and across the themes. For example, the Scottish Government's Curriculum for Excellence is particularly pertinent to our research in enhancing learning in <i>Pedagogy and Innovation</i> (e.g. Gray and Coyle); experimenting new ways of professional learning for early career teachers in the post-Donaldson era provides a context for our research in <i>Professional Learning and Teacher Education</i> (Mtika, Shanks and Colucci-Gray); and the establishment of a new Professional Standards Council affects <i>Communities and Partnership</i> (Ackland). Aberdeen's particular location stimulates our interest in rural and remote contexts. It adds depth to cross-theme research which embraces technology-enhanced learning, distance education and digital learning spaces (Shanks and Coyle), as well as research on young people, space and community mobilisation (Ivinson).</p> <p>A new strategic five year research plan (2010-2015) was developed through internal and</p>

external consultation (Universities of Cambridge and Southampton), aligned with CASS/University priorities. This has been, and continues to be, implemented under the guidance of **Coyle**, with **McArdle** and **Gray**, as Directors of Research responsible for knowledge exchange and interdisciplinarity respectively, along with an externally recruited Chair (**Ivinson**). The School's plan provides an ambitious steer for short-term and longer-term research targets beyond 2014. Strategic priorities successfully met and continuing to grow since 2008 are: (i) developing an inclusive research culture focused on professional practice; (ii) building capacity for both research and scholarly work; (iii) generating income as an enabler of professional practice; (iv) interdisciplinary research at national and international levels.

(i) Developing further an inclusive research culture

An organic research culture is embedded in our strategic plan to engage increasing numbers of colleagues and partners across the three themes. Examples relating to *Pedagogies and Innovation* include the highly successful £1.4 million Scottish Government-funded IPP initiative (Inclusive Practice Project: (IPP,2006-2010) in partnership with local authorities, schools, professional associations, trade unions, the Scottish Government, General Teaching Council Scotland (GTCS) and the school's inspectorate (HMIE). The follow-on Inclusive Practice project, (Florian, Rouse and Spratt) developing and extending theoretical applications, has attracted further research funding (£47,538, Esmée Fairbairn Foundation 2011-2012) enabling less experienced staff to develop their research profile. **Coyle's** research in bilingual pedagogies (£59,950, Esmée Fairbairn Foundation, 2009-2011) using new digital research tools, resulted in these reflective and practice-analysis tools being shared and used by colleagues and stakeholders in different contexts (e.g. all new teachers in a Local Authority) with high profile interest and attracting further funding. Innovation in terms of interdisciplinary research is a key feature (e.g. **Gray** - Arts as a Tool for Learning Across the Curriculum (ATLAC)).

Examples of research within the *Professional Learning & Teacher Education* include the £1.8m Scottish Government and Hunter Foundation funded Scottish Teachers for a New Era (STNE, 2006-2010) which in consultation with the Academy for Educational Development and the Carnegie Corporation of New York, developed a new model for teacher education – referred to as the Aberdeen model - involving stakeholders as researchers ranging from teachers to local authorities from pupils to national agencies (**Gray, Mtika, Colucci-Gray**). New funding has secured unique technology-enabled partnership developments (Northern Partnerships) across the North of Scotland rooted in research into innovative Northern Partnerships for professional learning (**Coyle** £788,666 Scottish Government 2013-2015).

Research activity in *Communities and Partnerships* is based on engagement through extensive networks and partnerships across schools, children's' services and community education including **McArdle's** Education Scotland funded research on ways in which community projects and related practitioners generate evidence of effectiveness; **McArdle's** comparative study on the impact of Curriculum for Excellence and other policies and practices on effective learning across two countries, Scotland and Malta; **Ackland's** work on advancing social practices for adult literacies; **Coyle's** work in the cross-disciplinary AHRC funded Community Heritage in Scotland's North-East; **Forbes'** research into inter-practitioner and inter-professional practice in schools and children's services, and **Ivinson's** research on policy and legal framework barriers to community mobilisation.

As the School grows its research capacity, a team approach ensures that different strands of research remain coherent and connected and purposefully involve new researchers, many of whom are experienced professionals. The School's focus on professional practice capitalises on this expertise and enables smaller inter-theme research groups to engage in complementary aspects of work. For example, research teams regularly meet to engage in collaborative writing, peer-review of outputs, shared reading and literature review and bid writing. There are two major Research Forums in the School per year with weekly seminars for smaller groups. A short-life working group (2010) generated a staff research activity audit. This has led to a research mentoring system with annual review for all staff to ensure that research planning, including conference attendance, publication of papers and so on, is co-ordinated and reviewed critically. A quarterly School Research Bulletin disseminates information about research opportunities and achievements.

A new School initiative has been particularly successful in attracting visiting scholars (ten international scholars between 2010-13) capitalising on their potential contribution to the research culture and themes of the School. Scholars, supported by an advisor, are attached to specialist research teams, contribute to research seminars, and have clear research outputs in terms of supporting Education researchers e.g. through joint papers, (**Colucci** and Grecu), joint applications (Marie-Curie fellowship, **Coyle** and Leone), institutional links (e.g. University of the Basque Country leading to joint publications) and collaborative data analysis (**Coyle** and Almenta). The School is actively involved in the European doctorate scheme, an initiative originating from the former Confederation of European Union Rectors Conference in 1991, which has already led to five successful PhDs in Spain and Italy, with two current Aberdeen students (Universities of Utrecht and Namur). These schemes are resulting in joint publications and funding bids.

(ii) Building capacity

The success of the IPP and STNE initiatives together with international recognition of our research on social equity in wider communities (e.g. **McArdle**, **Forbes**) and Further Education (**Ackland**), has created opportunities to build new initiatives. Our funding strategy promotes (i) follow-on funding (Scottish Government, 2013-5); (ii) greater success in small grants awards to build confidence (**Gray**, **Mtika**, **Shanks**, **Ravet**) (iii) joint initiatives e.g. as part of larger bids or knowledge transfer projects (**Forbes**, **McArdle**).

A planned feature of our work is to capitalise on 'research-led teaching' so that our research not only impacts on our programmes (e.g. initial teacher education) but actively includes tutors and students in the research process. Each year, hundreds of students are involved in class-based inquiry, action research and empirical research with staff which in turn collaboratively generates larger data sets (e.g. **Gray's** investigation of Nature Connectedness through outdoor learning with first year students). This enables both staff and students to not only extend their skills in quantitative and qualitative data analysis, but to publish these findings collaboratively in a range of professional and academic journals as well as on the professional national intranet.

A prominent dimension in our research profile focuses on multi-level partnerships - both internationally and nationally. Stakeholder collaboration is at the core of our research which targets professional impact and contributes to our identity as a unit that focuses on professional practice and learning. We make full use of regional and business partnerships e.g. the Knowledge Transfer Partnership with seven Northern local authorities (**McArdle**). This KTP seeks to meet the continuing professional development needs of 'hard to reach' community educators in the North of Scotland, resulting in the first Massive Open Online Course (MOOC) in Scotland dedicated to these communities. There is increasing collaboration with other Colleges in the University e.g. AHRC research with archaeology and anthropology for Sustainable Community Heritage (**Coyle**), Pathways to Healthy Living (**McArdle**) with the College of Life Science and Medicine, resulting in three successful PhD scholarships exploring health and well-being in children and adults; a KTP with Education, Business School and Computing Sciences partnering Aberdeen City Council to create a data-mining Observatory for citizens to have easy access to integrated and comprehensive information about education (**Coyle**); close research collaboration between Education and Medical Education (**Coyle** and Cleland); and extensive research in children's services (**Forbes**), community education (**McArdle**) and environmental sustainability (**Colucci-Gray**, **Gray**). In line with government thinking following the Donaldson Review (2011) on teacher education, successful engagement with research in schools and local authorities is evidenced (**Forbes**, **McArdle**). Investigating interactive learning through technology-linked classrooms is ongoing with four Local Authorities, video linking the School of Education with schools in the North. These context-rich links enable novice teachers to have wider classroom experiences in real time and develop professional learning involving pupils (**Coyle**). Funded research includes MODIS (Mobile Devices in Schools) (**Shanks**), Gaelic medium classrooms (**Shanks**) and inclusive pedagogies (**Mtika**). An increasing range of international partnerships is leading to new theoretical frameworks, shared research and students e.g. Council of Europe five nation CLIL 2.0 (**Coyle**).

c. People, including:

i. Staffing strategy and staff development

As an ambitious research unit, we are committed to providing a supportive, stimulating and structured framework for researchers to develop their skills and career profile in accordance with

the Concordat. A number of staff retirements and voluntary severances (2010) alongside professorial retirements (Rouse) and promotions elsewhere (e.g. Florian to the Bell Chair Edinburgh), required a strategic approach to developing capacity within a smaller, more tightly-structured base unit. Many staff in the School had successful careers as education professionals prior to becoming teacher educators. Hence there is a mature age profile compared to other university departments. Our research induction programme and staff development strategy using the mentoring system and team approach described earlier, aims to profit from this depth of experiential knowledge and skills to support different contributions to scholarship and research, whilst ensuring equitable and relevant staff development. New appointments targeting less experienced staff in 2012 have successfully recruited those with professional expertise and doctorates (e.g. Smith is a newly appointed member of the Royal Society of Edinburgh's Young Academy of Scotland; Freire is working as a PI for the first time). Three postgraduate researchers were promoted to permanent lecturing posts (**Mtika**, Beaton, **Shanks**) and a new professorial appointment (2013) with a track record in research capacity building (**Ivinson**) in 2013 provides evidence that our recruitment policy is on target. New staff are given a reduced teaching load to enable them to consolidate their research at an early stage and are integrated into one of the thematic research teams, comprising experienced researchers and postgraduate research students.

All teams, including student researchers, are represented on the Research Committee which makes recommendations regarding the research strategic plan. Research leave is available to all research-active staff on a five yearly basis. The Research Committee's increased budget provides opportunities for staff to attend conferences, share ideas, network with international colleagues, access data analysis support and research methods training. Applications for funding are reviewed on an individual basis by a team including research student representatives. Three members of staff have recently been promoted to reader – a significant step for our profile. Experienced editors mentor beginning career staff and students in how to get published, for example by linking research assignments (e.g. for staff on MRes) to article publication e.g. Dewhurst won Best Refereed Paper at the International Federation for Home Economics, World Federation, Melbourne in 2012. A team tasked with the School's Research Alignment, launched a flexible open-access digital space – *Research Exchange* - for all staff and research students to enhance and share knowledge of research methodology operating on a 'for researchers by researchers' principle. Routinely, groups of staff and PGRS participate in a menu of face to face or virtual seminars for individuals to present their research and participants to engage in critical reflection, typically on philosophy, paradigms, methodology and methods.

Equality and diversity is embedded in School policies and procedures with on-line training availability. The University is fully committed to equality for all staff and students, and received bronze membership of the Athena SWAN Charter in 2011 for fostering a supportive research environment for female researchers. The University has achieved Investors in People (IiP) status across the institution, with University Court having overall responsibility for implementation of the Equality and Diversity Policy. This policy is applied to all aspects of employment within the School. All staff have access to Equality and Diversity training providing fundamental education in the legislative framework and its practical implementation. We make an ongoing investment in seminars, workshops and Master classes. Activities include working with advisors from other universities; ongoing support for research teams by a visiting Professor; Master Classes; increased research collaboration between Aberdeen and other universities; regular forums and timetabled research seminars led by staff, research students and outside speakers (with virtual links for distance PhD students).

A University "Research and Innovation" unit advises researchers on available funding options, deadlines and application guidelines, sponsors frequent visits by representatives of funding bodies, and oversees the application process. The University also has a dedicated Researcher Development Unit (RDU) providing a programme of professional development opportunities for researchers, irrespective of level or discipline. The RDU also provides supports through a Researcher Development enabling fund. All activities are aligned with the national Researcher Development Framework to demonstrate progression across phases of a career. Thanks to these efforts, Aberdeen was one of the first UK universities to be awarded the Human Resources Excellence award from the European Commission for its researcher development programme.

ii Research students

Selection of students is managed through the Graduate School after open competition based on advertising primarily through the web. Candidates submit a proposal matched against the strategic aims of the School and the interests of individual staff members. Interviews are held with at least 2 staff. Selection of candidates is by strict criteria based on an assessment of academic ability and motivation to complete a PhD. All postgraduate students attend a College induction programme as well as a school induction led by the Director of Research Culture and Support.

We continue to increase our PhD student numbers - FT and PT with currently 25 students, campus-based and distance, home and international. With increasing capacity in the School to supervise postgraduate research students, we have put in place further strategies (web-based research profiles, search engines) enabling prospective students to contact potential supervisors.

Our current research student enrolment draws from a wide range of countries including Thailand, Greece, Malawi, Nigeria, Iran, Malta, Brunei and China. International collaborations are increasingly facilitated through research leadership, reputation and networking. Arrangements for joint international PhD supervisions e.g. with King Said University in UAE and joint Master's programmes with two Chinese universities contribute to our culturally rich environment. Education also prides itself on a commitment to local and regional communities, including those in isolated or rural areas. A dynamic programme (technology-enabled) for disseminating research targets to our key beneficiaries through public, professional and local government events involving workshops, seminars and public addresses, as well as a joint research organisation committee between ourselves and local authorities. Building on these opportunities connects the School both nationally and internationally and celebrates the benefits and impact of research, scholarship and practices of professional learning within and across diverse contexts.

During the PhD induction process, students and supervisors produce a Personal Development Plan which defines both research and generic skills the student will require. Training needs are recorded and revisited through regular meetings, at least monthly, with supervisors. These meetings have a focus on achievement, identifying any problems and planning future work. Formal assessment of student progress takes place after 9 months. Assessment is through written work and a viva with 2 members of staff. Students are supported through the University's Research Excellence programme for research training and graduate skills but they are also encouraged to attend MRes sessions within the School.

d. Income, infrastructure and facilities

In addition to the two multi-million pound research and development initiatives previously referred to (STNE and IPP) as well as the recent Scottish Government Funding for innovative partnerships (2013-2015) significant funding has been acquired. For example, Freire: £176,000 from the Chief Scientist Office for 'Counselling versus Low-Intensity Cognitive behaviour therapy': pilot/feasibility randomised controlled trial 2011; **McArdle**: £92,000 from Technology Strategy Board for the KTP project on Continuing Professional Development Needs of Community Learning and Development Workers, an action research project; Spratt: £70,000 A Review of Sex and Relationship Education in Primary Schools, NHS Health Scotland, 2008; **Coyle**: £57,950, Content and Language Integrated Learning in UK schools, Esmée Fairbairn Foundation; Florian: £57,000 Inclusive pedagogies, Esmée Fairbairn Foundation; **Colucci-Gray**: £50,000 Innovative Science approaches, University of Turin & Piedmont Regional Council. **Gray**: £26,146 British Academy International Partnership funding for collaboration with University of San Andres, Argentina. **Forbes**: £12,256 ESRC Award for Exploring Professional Identities. In addition **Ivinson** is currently co-investigator on a AHRC/ESRC £2.4 million funded collaboration between Cardiff, Aberdeen and Bristol Universities, *Productive Margins: Regulating for Engagement*.

Our excellent network with schools, the wider public sector and private and voluntary sectors results in regular smaller targeted research grants (e.g. **Gray**: £5000 internship initiative in outdoor learning Kick Start award with Creative Star Social Enterprise; £5000 Extreme Sports - Sporting Chance Star Award). These smaller grants support our capacity building strategy. They lead to significant impact since outcomes are often directly linked to practice. For example, Spratt: ESRC, £15,000 Research Seminar Series - Exploring the school as a site of promotion and support of mental health, with Universities of Teesside and Southampton, 2008-9.

We encourage all staff to acquire small sums for pump priming or to organise funded

seminars. Successes include: Freire for seminars supported by the British Association for Counselling and Psychotherapy; **Ravet**, for Autism and Learning Research 2010 -11; **McArdle**, pump priming to explore community aspirations for learning with a social enterprise partner; **Forbes, Coyle's** engagement in the Scottish Universities Insight Institute for knowledge exchange.

Within the School, the Directors of Research through the Research Committee manage the research strands of the strategic and operational plan. The School Research Committee consists of staff and student representatives of key constituencies of the School including each of the Research Groups, post graduate students and PhD students. There are cross links to teaching committees to ensure that research-led teaching objectives are met. A CASS system of managing research ethics is in place for all staff and student research. Ethical guidelines of the Scottish and British Educational Research Associations (SERA/BERA) are strictly followed. Weekly research seminars host outside presenters including internationally renowned colleagues for staff and research students to share their work.

The successful achievement of transparent goals to grow our inclusive research culture has been informed by: an audit of research activity to assure a research-aware staff; the establishment of a School research office with dedicated staff to provide an administrative focus for research activity, dissemination of relevant and targeted information and support in linking the research themes and outputs; dynamic KTP business and innovation links to support research bid writing; the successful creation of the post of Director of Research Culture and Support to integrate staff and student research; and two new Directors of Research. These actions support significant changes in raising the profile and prioritisation of research and scholarship as core work within the School. For example, the School has launched (2013) a university-wide Community University collaboration for Social Progress (CUSP). This seeks to promote expertise in participatory research across disciplines and research which brings together community members with academic staff to collaborate in the research process.

The School's facilities are amongst the best in the university, due to refurbishment in 2005. Dedicated, quiet office space is available to doctoral students and full-time staff are accommodated in single occupancy offices. The *Open Space* research zone is a physical space for staff and students with an attractive seating area and digital tools to support research meetings. It also houses resources and research information. A state-of-the art library (£57 million) opened in 2012 with excellent resources for staff and students fundamental for both campus and distance research students. The Library provision on four sites over three campuses, is one of the largest and best equipped in Scotland.

e. Collaboration or contribution to the discipline or research base

A system for PhDs and Masters' level supervisory teams within and across Schools enables staff without doctorates to gain insights into the supervision process. The MRes (Social and Educational Research) has targeted members of staff without research qualifications and since 2008, 10 members of staff have gained an MRes, 5 staff awarded a PhD and 7 more near to completion. Learning from and building on this success, the School has undertaken a reconfiguration of the research degrees pathways available. This includes a new PhD by publication, with solid research methods training available through the MRes, along with a range of additional workshops and seminars. Opening access to a variety of flexible routes to PhD has created a vibrant research culture through increasing shared discussion and activity between tutors and students following different pathways.

Unit researchers make a significant contribution to the discipline and research base for Education through an extensive range of activities on a regional, national and international level. The School has expertise in qualitative, quantitative and mixed methods research and staff have published articles that exemplify methodological pluralism. Aberdeen has become an important centre for international and UK scholarship focussing on professional practices. Our profile embraces the local (e.g. the RESPECT research project supporting local communities to research their own 'real life' problems, **McArdle**); the national (e.g. the work on adult literacies, **Ackland**); European collaborations such as CLIL Cascade Network (**Coyle**); and the international (collaborations including Africa, Asia, America and Australia - references below). **Forbes** involvement in the Applied Educational Research Scheme (AERS) and the Scottish Independent School Project (SISP),

We have a strategy of both promoting publishing in high ranking academic journals and writing research-oriented professional books, to maximise impact. For example, **Coyle's** experiences provide leadership and model a modus operandi e.g. her Cambridge University Press book on bilingual education (Coyle, Hood and Marsh, 2010) has extensive international readership by students, educators and researchers alike. The new bilingual education conceptual framework it presents is now world-renowned and has been adopted by educators and policy-makers for example in Spain, Sri-Lanka, Estonia. The School operates within the Researcher Development Agenda, ensuring that policies and procedures reflect the principles of the Concordat (UUK/RCUK). All researchers were issued with a copy of the Concordat by the Vice Principal for Research in 2009, and the responsibilities of researchers and institution are made clear. (For more recent appointments, this pack forms part of staff induction).

Staff involved in editorial boards of journals at international and national levels include: **Coyle** - *Innovation in Language Teaching and Learning*; **McArdle** *Educational Action Research*; *Education in the North*. **Gray** - *Journal of Science Teacher Education*. **Gray** and **Colucci-Gray**: *Sisyphus: Journal of Education*. **Ivinson**: *Gender and Education*; *British Journal of Sociology of Education*. We also referee for over 50 journals of which at least 20 are international. **Forbes**: *British Journal of Special Education (BJSE)*; *Journal of Research in Special Educational Needs (JORSSEN)*; and *Support for Learning (SfL)*, *Scottish Educational Review (SER)*.

Significant activity includes reviewing grant bids for major funding councils. For example, **Forbes** for the Economic and Social Research Council Standard Grants Education and Social Policy (2009-10); Leverhulme Trust Major Research Fellowship scheme; British Academy Grants Scheme; and the Nuffield Foundation Social Sciences Small Grants Scheme. **Forbes** is a Member of the ESRC Peer Review College. **Coyle** has reviewed ESRC bids (2002, 2004, 2006, 2007, 2009, 2012) and papers for IEEE International Conference on Advanced Learning Technologies (ICALT). **Gray** has participated in Funding Council Proposal Reviews e.g. National Science Foundation, USA; ESRC, UK; SSHRC, Canada.

Staff undertaking recent PhD examinations include **Coyle**, universities of Stirling (2013), Leeds (2013), Nottingham (2012), Lancaster (2012), Aix-en-Provence (2011), Leicester (2011), Basque Country (2011), Catholic University, Milan (2011), Newcastle (2010), Melbourne (2010) and Southampton (2009); **Gray** at the Universities of Turin and Strathclyde; **Ravet** at the universities of Exeter and Strathclyde; **Ivinson** at the Universities of Cambridge, Cardiff, Cumbria, Exeter, Open and West of England.

Active participation in research networks is extensive (e.g. SERA SIGs, ERSC seminars, CCN and AILA ReN). Major international collaborations include contributions to conference organisation. such as **Colucci-Gray**: President of the Scottish Educational Research Association 2013-15; Scottish Educational Research Association Annual Conference (2012); **Coyle** (CLIL Network International Conferences, 2010, 2011, 2012); **Ivinson**, organising committee for the International Gender and Education Conference, 2011, 2013.

Opportunities to disseminate our research through consultancies draw on research fields such as **Coyle's** work: World Bank initiated bilingual education collaboration in Sri Lanka (2012); Scottish Government Advisory group for MT +2 Policy (2011-2012); Victoria Education Authority, Australia (2012); International School Geneva; Bilingual expert (Belgian Flemish government);

Our engagement in knowledge exchange is increasingly prominent. Staff (**McArdle**, **Gray**, **Forbes**) have contributed significantly to local, national and international conferences, workshops etc. Selected examples have led to increased collaboration between national and international groups, and directly to the recruitment of research students: **Colucci-Gray's** keynotes on sustainability and science education include Norwegian Teacher Education for Sustainability, Oslo, 2009; ESRC seminar series "Knowledge and the new Curriculum", 2011; "I linguaggi per la Sostenibilita", Roma, 2011; Centre for Cultural History Colloquium: Towards a Sustainable Future, 2012. During the current REF period **Coyle** has been invited to give more than 20 international keynotes on bilingual education by government agencies, academic institutions, professional associations including: Australia (2012); Italy (2012); Spain (2011; 2009); Estonia (2011); Switzerland (2011); Japan (2011); Slovenia (2010); Netherlands (2009); Ireland (2010, 2009); UK (2011; 2010). **Ivinson**: invited symposium, Stockholm 2013; workshops Taiwan 2010.