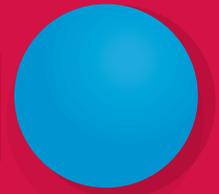
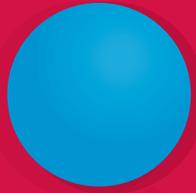


Harnessing educational research

Summary



THE
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Harnessing educational research: summary

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The main report can be viewed online at

royalsociety.org/harnessing-educational-research

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Introduction

Young people need the best possible education if they are to thrive in a rapidly changing world. A good education should equip people to lead flourishing lives, and give them the tools to help others flourish as well.

Education is key to improving lives, underpins the social, economic and political fabric of the nation and impacts the health and welfare of the population and its resilience. We must continually adapt where, how and what we learn in order to respond to new work patterns, lifestyles, technologies and knowledge.

The Royal Society and The British Academy's report on Harnessing educational research assesses the current state of research about formal education in schools and colleges up to the age of 18 in the UK and its roles within the broader education ecosystem. In particular, it considers the flows of people, funding and information through the ecosystem. This analysis highlights where flows are missing or need to be strengthened; uncovers tensions or barriers between the actors in the ecosystem that need to be addressed; and identifies facilitators that would enable improvements in the ecosystem. Building on that ecosystem approach, this report sets out some necessary actions that will enable research to better inform the evolution of the education ecosystem.

Many of the building blocks for harnessing educational research are already in place. But our conversations with researchers, practitioners and policymakers have shown that they do not have shared priorities, although there are areas of common concern or interest. This causes disconnects between supply and demand, and contributes to a lack of sustained research effort focused on the key challenges in education.

The report offers eight recommendations to the governments of the UK's four nations, UKRI and its constituent bodies, universities and other higher education institutions, and education organisations such as learned societies, regulators, and professional bodies.

To read the full report, visit:

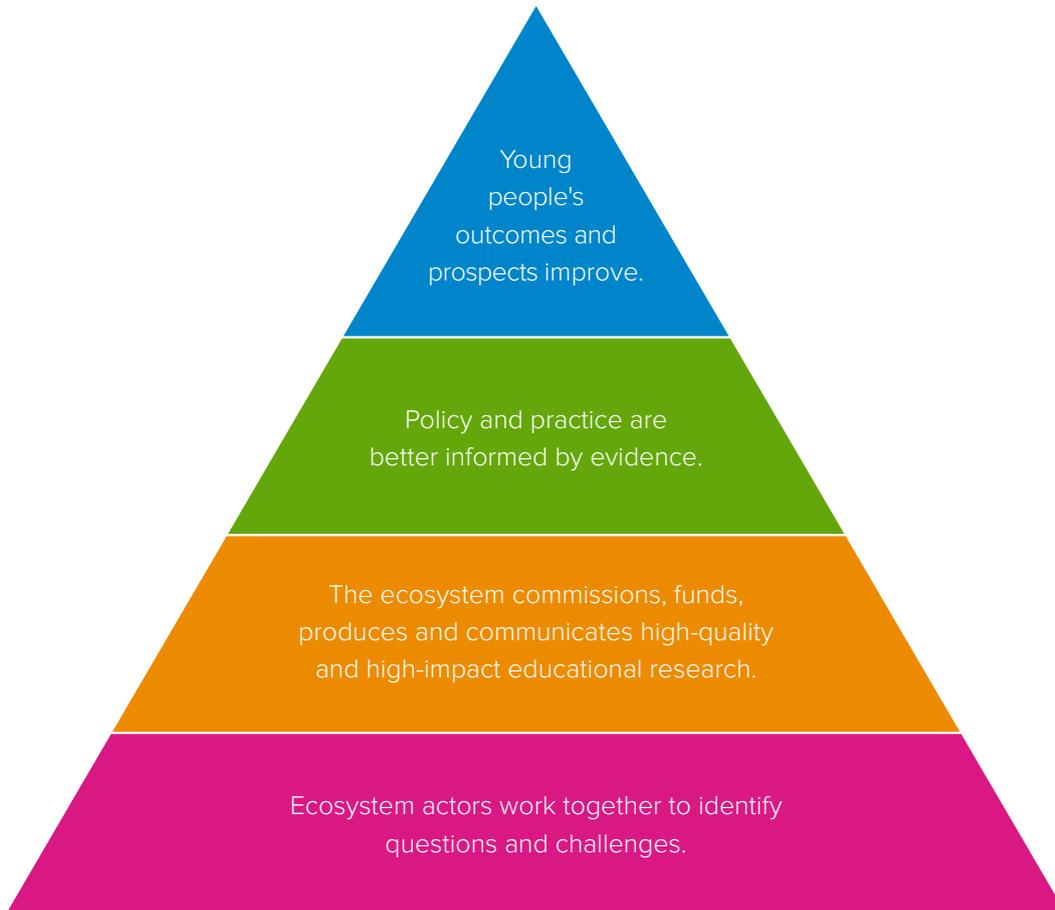
royalsociety.org/harnessing-educational-research

or

thebritishacademy.ac.uk/projects/harnessing-educational-research

FIGURE 1

Educational research has an important role in improving young people's lives.



Connecting supply and demand

Ecosystem actors do not readily share priorities, and need to help identify critical mismatches in supply and demand of evidence and insights.

The new Government Departments' Areas of Research Interest related to education provide some clarity on government priorities. Recent developments in research funding with the creation of the UK Research and Innovation (UKRI), have the potential to improve collaboration.

The health sector has identified shared priorities through the Office for Strategic Coordination of Health Research (OSCHR), which also involves other funders. In education, teachers and parents also need to be included in any new organisational infrastructure.

RECOMMENDATION 1

Connecting supply and demand

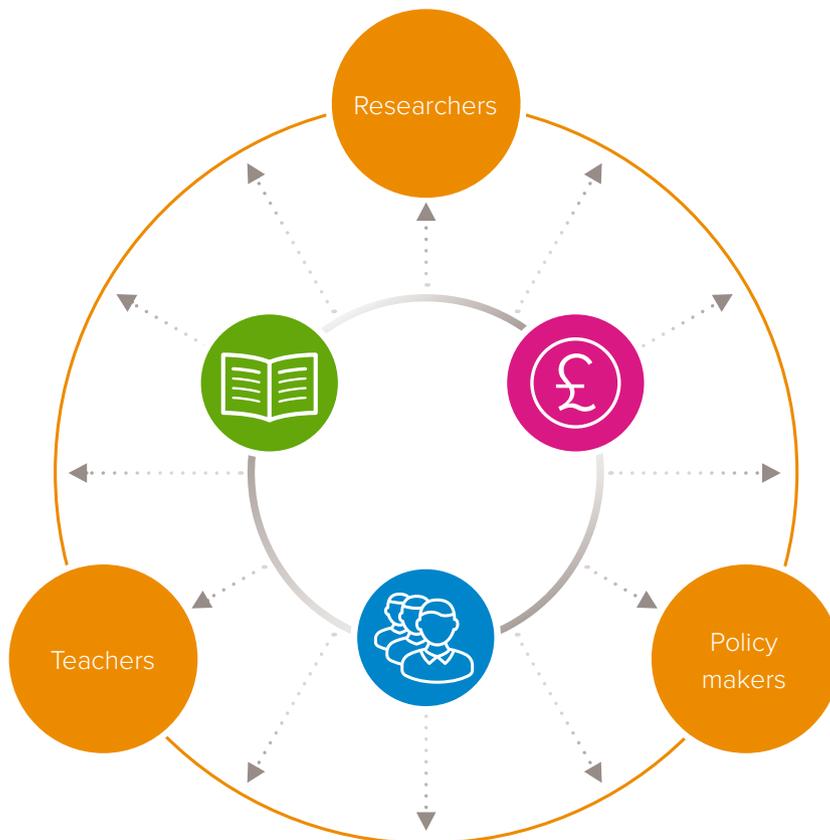
Governments of the 4 UK nations should instigate a process to develop a new organisational structure for educational research, working with UKRI, teaching bodies and other funders. The structure should have at its heart an Office for Educational Research to identify and seek to address mismatches in supply and demand. This Office will need to bring together representatives from government, key public and private research funders, teachers and researchers. This representation may include:

- A programme board that reviews opportunities for educational research opportunities across the UKRI councils.
- The chief scientific advisers of the 4 nations' government education departments to explore where there are shared priorities across the UK.
- Umbrella organisations for teachers (eg Chartered College of Teaching) to ensure practitioner voices are heard.
- Learned societies and subject associations, to ensure researchers are fully engaged.
- A forum for all funders of educational research, such as charities as well as UKRI, to identify opportunities for coordination on the direction of funding.
- Employer and skills bodies (eg Federation of Small Businesses, Confederation of British Industry) to ensure needs for the future workforce are taken into account.

FIGURE 2

The roles of research in the education ecosystem.

There are three principal actors in the education ecosystem: researchers, practitioners and policy makers. External political, economic and other environmental changes affect the ecosystem. The health and efficacy of the ecosystem depends on efficient flows of people, funding and information.



The geography of the ecosystem

Research capacity is unevenly distributed across the UK.

Researchers need to be situated close to practitioners in a wide range of geographical settings in order to undertake some of their research. Teacher training and supply models also benefit from having ready access to local centres of research.

RECOMMENDATION 2

The geography of the ecosystem

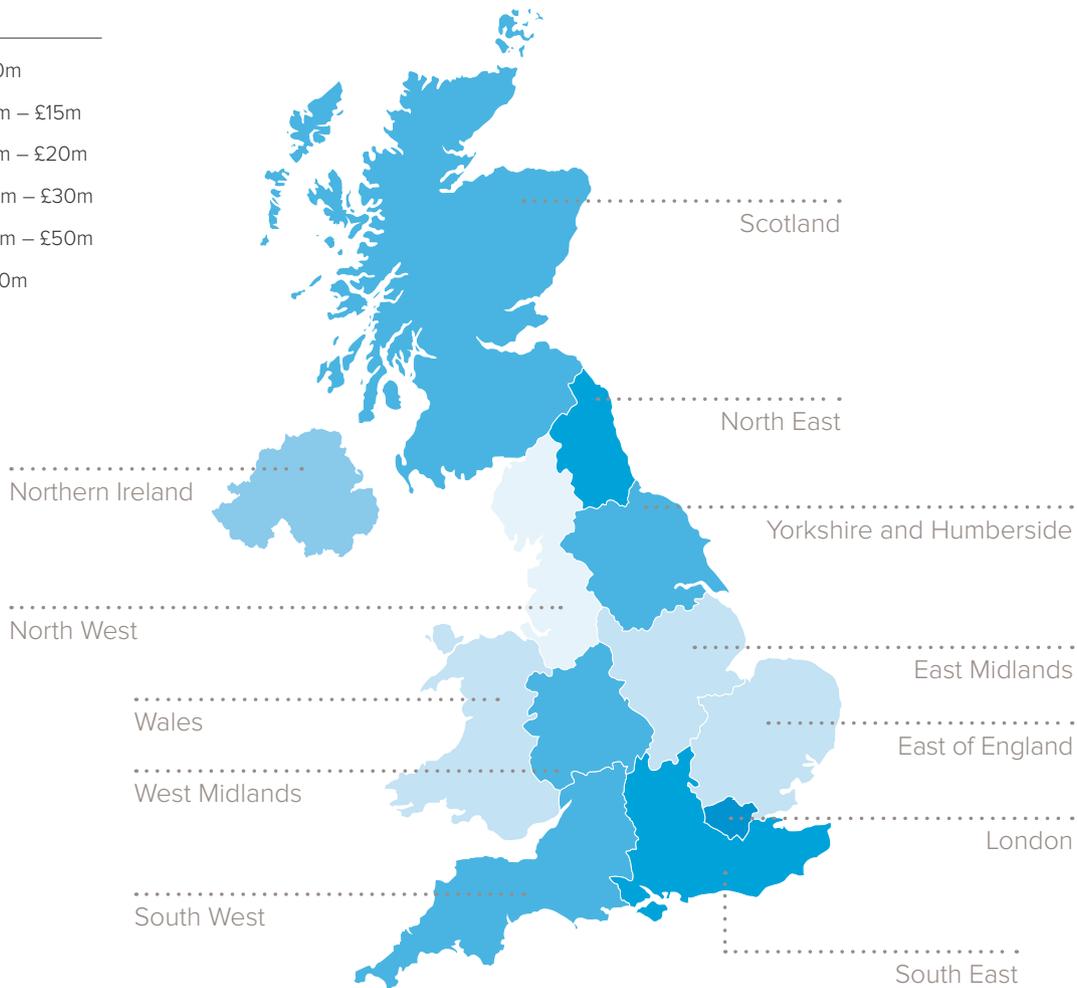
The Office for Educational Research should carry out a review of the distribution of educational research capacity across the UK. It should use its coordinating role to facilitate collaborations that enable researchers, practitioners, policymakers and other stakeholders to work together. These collaborations may be regional or thematic.

FIGURE 3

Total research income for education departments in HEIs 2013 to 2016.

KEY

- <£10m
- £10m – £15m
- £15m – £20m
- £20m – £30m
- £30m – £50m
- >£50m



Source: HESA Finance Record.

Improving collaboration

There is huge untapped capacity in the research body that could – and is needed to – contribute to the research challenges in education.

The REF 2014 sub-panel for education noted its surprise at the lack of research submitted that exploited the interdisciplinary potential of work bridging education, neuroscience and psychology.

Within the education ecosystem, the role of funders in supporting research at the interface between disciplines is crucial to avoid funding applications for interdisciplinary research falling between different panels.

RECOMMENDATION 3

Improving collaboration

Interdisciplinary educational research will be needed to respond to the big strategic questions in educational research. UK governments and their agencies, including UKRI and other funders of educational research, and HEIs and other research organisations, should invest in interdisciplinary, cross-departmental and cross-institutional collaboration.

UKRI's strategic priorities fund creates an opportunity for focused funding of interdisciplinary educational research. Its scope should be informed by evidence from policymakers, teachers and researchers (as set out in Recommendation 1).

Demand from practitioners

Reliable information about the evidence and insights that teachers, schools and colleges value proved difficult to find. This community was consulted through a series of focus group sessions that involved researchers and policymakers and the Education Endowment Foundation's (EEF) School Themes were also reviewed, which are co-determined with teachers.

Practitioners' research priorities

- **Behaviour:** improving pupil engagement and minimising disruptive behaviour.
- **Character and essential skills:** building attitudes, skills and behaviours that support children's learning and personal development.
- **Developing effective learners:** supporting pupils to become effective and self-motivated learners.
- **Enrichment:** extending learning beyond traditional academic priorities, including careers education, and participation in the arts and sports.
- **Feedback and monitoring pupil progress:** using assessment to understand pupils' strengths, weaknesses and progress, and addressing these through feedback.
- **Language and literacy:** evidence on literacy from the EEF's Teaching and Learning Toolkit (which summarises international evidence on teaching) alongside the findings from recent EEF projects.
- **Mathematics:** improving the teaching and learning of mathematics.
- **Organising your school:** addressing school-level structural and organisational issues, such as timetabling, class size, the built environment, and digital technology.
- **Parental engagement:** helping parents to support their children's learning.
- **Science:** improving the teaching and learning of science.
- **Staff deployment and development:** improving the quality of teaching through staff deployment and continuing professional development.

Secure the base of the pipeline

A significant proportion of new researchers in this field are mature students from a broad range of backgrounds. These students may not have had a strong grounding in the full range of social science research methods.

ESRC has established 14 interdisciplinary doctoral training partnerships (DTPs), and these provide a useful training model.

However, there is clearly opportunity for greater provision, particularly as only 55 of the 98 HEIs which have postgraduate research students in education are part of the DTP network, and more could be done to support the mixed pool of part-time and full-time postgraduate population who may be mature students and/or come from a teaching background.

RECOMMENDATION 4

Secure the base of the pipeline

UKRI, other funders, and HEIs, supported by learned societies, must:

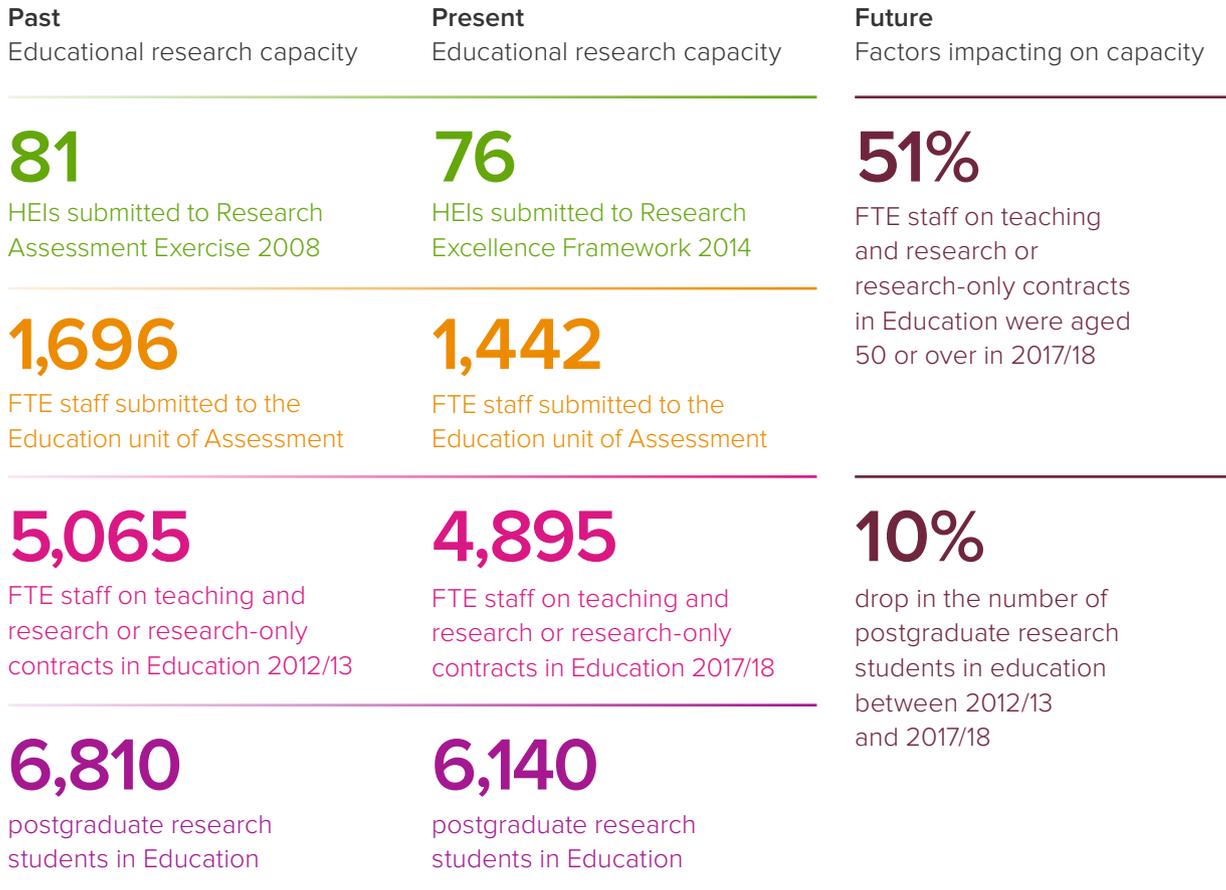
- Ensure the training of educational research postgraduate students meets the needs of mature learners – often teachers, with part-time studentships.
- Enable all educational research postgraduate students to benefit from training in the full range of social science methods.
- Foster better links between research students and policy and teaching communities.

This could be achieved by:

- Growing the use of the collaborative studentship (CASE) infrastructure to encourage and enable government and other relevant bodies, including independent research organisations, to support postgraduate research students in educational research.
- Reviewing the guidance for DTPs about flexible approaches to funding and supporting mature students.
- HEIs and funders requiring all postgraduate research students in education to have a supervisory team which recognises the interdisciplinary nature of educational research.

FIGURE 4

The capacity for educational research in HEIs and for training researchers is at risk.



Source: HESA Staff Record 2012/13 – 2017/18 and HESA Student Record 2007/8 – 2017/18, accessed under license via HeidiPlus.
© Higher Education Statistics Agency Limited. Neither the Higher Education Statistics Agency Limited nor HESA Services Limited can accept responsibility for any inferences or conclusions derived by third parties from data or other information obtained from Heidi Plus.

Quality-related funding of educational research

Most sources of funding for educational research have declined in recent years and the balance between funding sources is changing.

Funding from government departments has become more narrowly targeted. This targeting helps government to address its strategic questions, but does not help support the wider research base.

Funding from various other sources (including charities and the Educational Endowment Foundation) has risen in importance.

The research endeavour covers a wide range of activities, from 'blue skies' to strategically directed research to knowledge transfer. Challenge-led funding is important, as is the funding of long-term studies. However, it is equally important that the blue skies, open-ended research endeavour remains healthy in the ecosystem.

RECOMMENDATION 5

Quality-related funding of educational research

Research England and the equivalent bodies in the devolved nations need to ensure that quality-related (QR) funding remains a strong part of the funding portfolio. This funding secures the underlying research infrastructure and enables HEIs to make decisions about what research is important, independent of the immediate priorities of government and funders.

HEIs should ensure that they continue to use QR funding to support blue skies research, interdisciplinary activity and maintaining the pipeline of researchers, which are vital to maintaining educational research as a healthy discipline.

FIGURE 5

Research funding allocated to education is declining.

Quality related (QR) funding from the UK Higher Education Funding Councils:



Uk Government departments and Research Councils provided:



The Department for Education made a founding investment in EEF of:



Source: HESA Finance Record. Figures have not been adjusted for inflation.

Supporting the use of research to inform teaching

Governments and teaching bodies recognise that connecting research and teaching is key.

Research mediators play a key role in the ecosystem, by monitoring, reviewing and synthesising available evidence for teachers and senior leaders.

Open access to research is improving, and the number of mediators in the ecosystem is growing. However, the EEF Literacy Octopus project

showed it is impossible to achieve large scale change simply by sharing knowledge with teachers about ‘what is good’. In school and colleges, senior leaders are crucial to creating an environment where teachers have time and motivation to engage with, or participate in, research and other professional development activities.

RECOMMENDATION 6

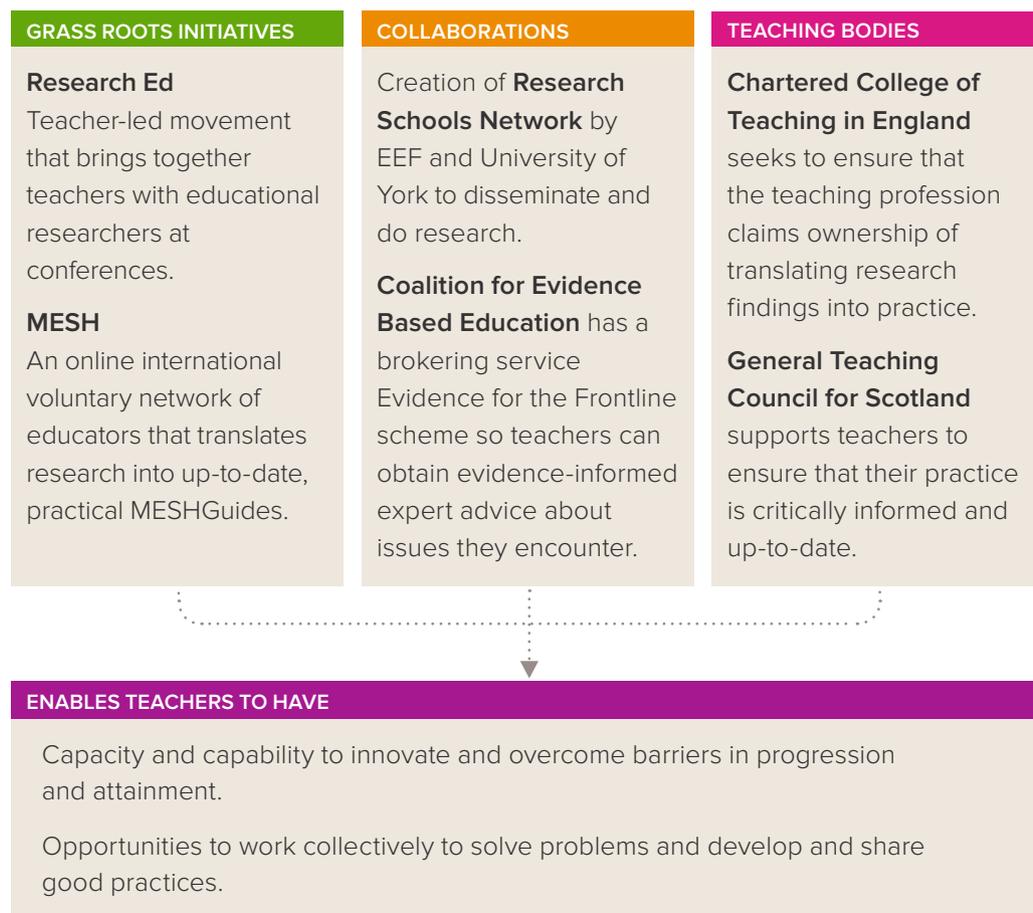
Support the use of research to inform teaching

Teachers need more support to use evidence and insights from research to develop their practice and understanding. This could be addressed by:

- The Department for Education and its devolved equivalents making clear their expectation that teachers should be informed by and engaged in research. They can achieve this by recognising the importance of research-informed practice within the professional standards for teachers, the requirements for initial teacher education, the induction period and in the professional development framework.
- The Chartered College of Teaching in England, the General Teaching Councils of Northern Ireland and Scotland and the Education Workforce Council in Wales using research about effective knowledge mobilization practice to identify examples where teachers have used evidence to change practice and working to embed such practice more widely.
- The Department for Education and its devolved equivalents building on initiatives like the Research Schools Network, ensuring that all schools and colleges are closely connected to research hub institutions.
- Ofsted, and the equivalent inspectorates in the devolved administrations, ensuring that frameworks are in place that encourage school and college leadership to develop a culture of critical evaluation and research-informed practice.

FIGURE 6

Teachers are increasingly engaging in research, and there is a growing but small scale infrastructure that supports these teachers.



Facilitating the needs of policy makers

Sustainable interventions between researchers and policy-makers are needed to improve the way the ecosystem functions.

One way to break down the practical and cultural barriers between policymakers and the research community is to increase their opportunities for interaction. This helps policy-makers understand the scope and the limitations of evidence, as well as deconstructing the cultural norms that act as barriers to cooperation.

Creative collisions – innovative and largely spontaneous interactions between professionals working at the interface between different fields – can improve connections.

Loosely facilitating creative collisions within conferences and workshops, as well as digitally through blogs and online hubs, helps professionals from different communities to share ideas, bridge divides, and build stronger and wider connections.

RECOMMENDATION 7

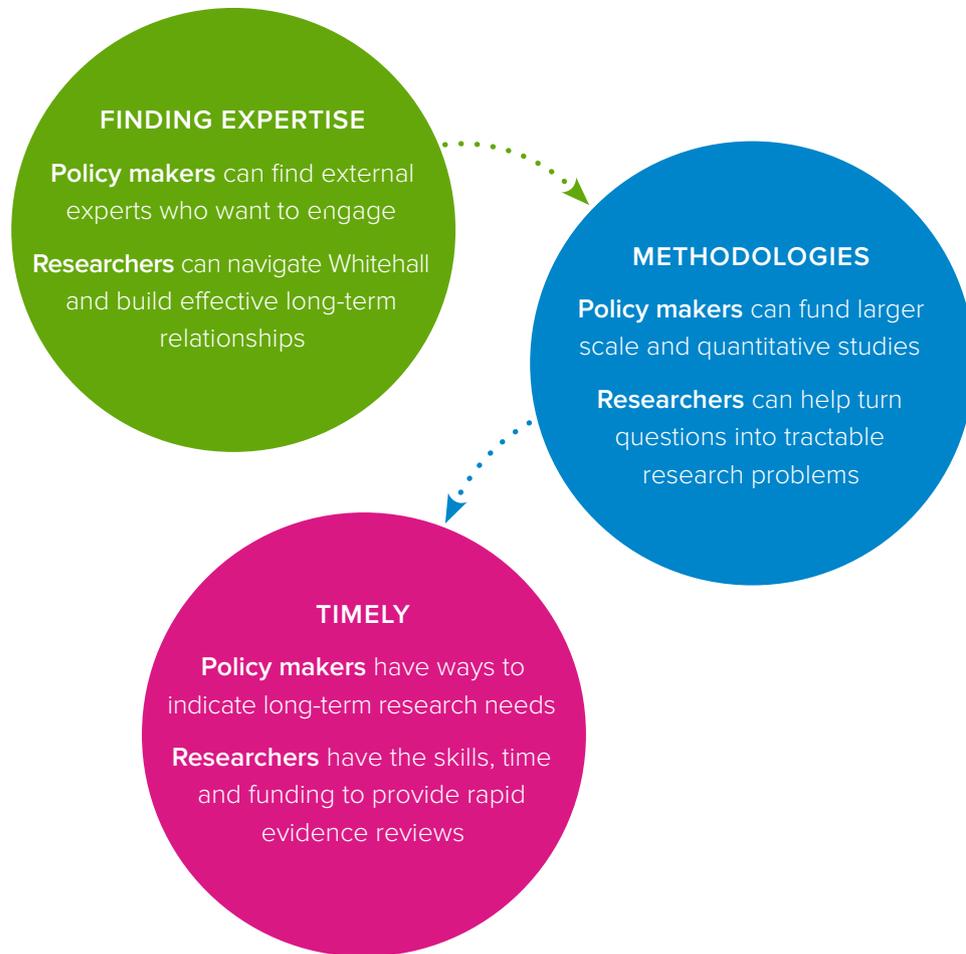
Facilitating the needs of policymakers

Practical and cultural barriers, along with political and ideological resistance, inhibit flows of information and ideas between researchers and policymakers. To enable policy professionals to meet the Civil Service standards for analysis and use of evidence, these barriers could be reduced by building on existing schemes, including:

- Government, UKRI and other bodies increasing the scale and improving the sustainability of placements for researchers within government departments.
- Governments seconding policymakers into research teams.
- Governments, UKRI, universities and other research organisations creating opportunities for researchers to make connections with policymakers and learn how to navigate government and its agencies, for example through research seminars or work shadowing.
- The national academies of the UK and other facilitating bodies convening high-level forums to explore solutions to policy challenges.

FIGURE 7

Overcoming challenges to engagement between policy makers and researchers.



Supporting the production and use of evidence synthesis

Policymakers need to assess research for its validity, applicability, significance and reliability.

Evidence syntheses for policymakers are few and far between, and there are limited drivers in the research environment for researchers to produce such syntheses.

Evidence syntheses should provide unbiased information in a format that is better suited to policymakers' and teachers' needs. However, the research capacity in the ecosystem needs to be large enough, skilled enough and flexible enough to undertake syntheses in the timeframes needed for policy.

RECOMMENDATION 8

Support the production and use of evidence synthesis

Evidence synthesis can provide valuable insights to researchers, teachers and policymakers but is currently underused. Increased production and use of evidence synthesis could be achieved through:

- The Office for Educational Research, governments and teachers working with the research community to identify research areas requiring synthesis.
- Governments and their agencies, researchers and teachers adopting common approaches to evidence synthesis which focus on ensuring the findings have practical application in policy and practice.
- Publishers and educational research bodies, such as the College of Teaching and BERA, providing guidance to authors on evidence synthesis methods.
- Research England ensuring evidence synthesis is valued in research accountability frameworks such as the REF.

Evidence

This report is underpinned by a portfolio of evidence, all of which is available in full on both the British Academy website and Royal Society websites.

This includes:

1. **A call for evidence** opened between August and October 2016. We received 47 responses from individual researchers, directors of research centres, learned societies, institutes of education, headteachers, funders and government agencies from across the humanities, social, physical and natural sciences.
2. **A synthesis and analysis of existing evidence on educational research capacity and impact in the UK.** This included:
 - An analysis of HESA and REF data, career trajectory data and doctoral thesis data to analyse current educational research capacity within UK universities.
 - An analysis of a sample of 2014 Education REF environment templates, impact statements and impact case studies to understand how and when educational research has impact, and how these impacts are reported.
 - A desk-based review, supplemented with expert interviews, of the types of educational research and analysis conducted in non-university research organisations.
3. A set of **local, regional, national and international case studies** that show where educational research is being or has been successfully applied to influence policy and practice; how the relationships between parts of the education system have led to the effective application of educational research to policy or practice; and how this could be replicated. Examples include Scotland, Japan, Finland, Australia and Hampshire.
4. **A thought piece on the history of UK initiatives** that sought to improve the linkages between research, policy and practice.
5. **A series of 9 focus groups** with key stakeholders from research, policy and practice. These were held across the UK (Coventry, Manchester, two in London, York, Sheffield, Cardiff, Glasgow and Edinburgh) with a total of 58 participants. Discussions focussed on the strategic foci of UK-focused educational research over the next 20 years.
6. **A series of roundtables** with: (i) teachers, teaching organisations and representatives from research mediators; (ii) heads of departments of education in UK universities; (iii) representatives from the further education sector and further education colleges.

Inclusive

- Involves policymakers and is relevant and useful to them.
- Considers many types and sources of evidence.
- Uses a range of skills and people.



Principles for
good evidence
synthesis
for policy

Accessible

- Is written in plain language.
- Is available in a suitable timeframe.
- Is freely available online.



Rigorous



- Uses the most comprehensive feasible body of evidence.
- Recognises and minimises bias.
- Is independently reviewed as part of a quality assurance process.

Transparent



- Clearly describes the research question, methods, sources of evidence and quality assurance process.
- Communicates complexities and areas of contention.
- Acknowledges assumptions, limitations and uncertainties, including any evidence gaps.
- Declares personal, political and organisational interests and manages any conflicts.



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For further information

The Royal Society
6 – 9 Carlton House Terrace
London SW1Y 5AG

T +44 20 7451 2500
E science.policy@royalsociety.org
W royalsociety.org

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For further information

The British Academy
10 – 11 Carlton House Terrace
London SW1Y 5AH

T +44 20 7969 5200
E highereducation@thebritishacademy.ac.uk
W thebritishacademy.ac.uk

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