



Llywodraeth Cymru
Welsh Government

The National Strategy for Educational Research and Enquiry

Developing educational research capacity and volume in higher education: a review of evidence from selected case-study countries

Research

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Developing educational research capacity and volume in higher education: a review of evidence from selected case studies

Audience	Education professionals, researchers and policymakers
Overview	As part of the development of the National Strategy for Educational Research and Enquiry the Welsh Government undertook a review of how educational research capacity had been developed in other nations. It considers the experience of 6 nations and the development of a specialist research centre in a higher education institution in Wales.
Action required	This document will be of interest to education policy makers, education researchers and higher education institutions.
Further information	<p>Enquiries about this document should be directed to:</p> <p>Education Research Policy Branch Pedagogy, Leadership and Professional Learning Division The Education Directorate Education, Social Justice and Welsh Language Group Welsh Government Cathays Park Cardiff CF10 3NQ</p> <p>e-mail: IsadranAAaDP.PL&PLDivision@gov.wales</p> <p> @WG_Education</p> <p> Facebook/EducationWales</p>
Additional copies	<p>This document can be accessed from the Welsh Government's website at</p> <p>https://hwb.gov.wales/professional-development/the-national-strategy-for-educational-research-and-enquiry-nseren/nseren-evidence-reviews/</p>

Related documents The National Strategy for Educational Research and Enquiry

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

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Kevin Lowden, University of Glasgow

Stuart Hall, University of Glasgow

Dr Russell Grigg, Education Inspector, Ministry of Education, United Arab Emirates

Professor Carol Campbell, University of Toronto

Professor Alison Fuller, Institute of Education, University College London

Dr Jemma Hawkins, DECIPHer, Cardiff University

Professor Simon Murphy, DECIPHer, Cardiff University,

Professor Joanne Hughes, Queens University Belfast

1. Introduction

- 1.1 This evidence review has been written to support the development of the National Strategy for Educational Research and Enquiry (NSERE) in Wales. In an increasingly connected world, governments generally seek to develop better knowledge bases for determining educational policy and practice. This often requires the building of educational research capacity to produce high-quality research within the sector (Leitch, 2009).
- 1.2 The Welsh government endorses the idea that ‘educational policy and practice should be informed by the best available research evidence’ (Royal Society and The British Academy, 2018). The Minister of Education in Wales committed her government in 2018 to investment in educational research, the co-creation of a national education strategy and the development of career-long professional learning rooted in an evidence-based approach and which supports collaboration (reference).
- 1.3 The review examines how the development of educational research volume and capacity is supported in selected UK and international case-study countries, including:
 - The implementation of initiatives and strategies which develop a supportive research culture.
 - Opportunities for career development.
 - Support for collaboration between researchers, policymakers and practitioners.
- 1.4 For the purposes of this report, research capacity is understood as a countries or institutions ability to “produce, debate and use research knowledge and products relevant to their needs” (Vogel, 2018;6).
- 1.5 The literature in this field indicates that research capacity can be built and strengthened at three integrated and interrelated levels (Department for International Development, 2010; HESA, 2018):
 - **Individual:** Development of individuals capacity via training, scholarships and mentoring skills.
 - **Organisational:** Development of capacity at the organisational level includes the provision of infrastructure and architecture and the establishment of partnerships, networks, and consortia models.

- **Environmental:** Development of capacity at the environmental level includes establishing and enabling an environment for research through the development of national level boards such as parliamentary scientific advisory bodies and innovation clusters.

1.6 Research capacity building aims to enhance the abilities of individuals, organisations, and systems to conduct high-quality research, to disseminate findings effectively and efficiently and to create impact or change (Department for International Development, 2010; HESA, 2018). These integrated and interrelated levels of research capacity have informed the concepts searched for in the literature review and the lines of enquiry in the stakeholder interviews.

2. Methodology

- 2.1 The review adopted a geographical case study approach whereby case study countries were selected, and an in-depth analysis of the development of each country's HEI's educational research capacity was conducted.
- 2.2 The case study countries were the three other UK nations (England, Northern Ireland and Scotland) and three countries from differing areas of the globe (New Zealand, Canada and United Arab Emirates). An additional case study is also included from Wales.
- 2.3 The following research questions were considered in undertaking the case studies:
 - How is educational research capacity and volume within HEIs developed in these countries?
 - How and to what extent are HEIs in these countries collaborating with other academics, policymakers and practitioners in these countries?
- 2.4 A review of literature was undertaken for each country focusing upon:
 - How higher education educational research volume and capacity was supported in each country.
 - If a specific government educational research strategy existed.
 - Generic processes to support educational research.
- 2.5 Following the review of literature, informal interviews were held with at least one stakeholder from each case study country. Purposive sampling was employed to recruit interviewees. Academics or experts within the field of education were asked to participate in the research, and these academics were recruited based on judgements of their expertise within the educational ecosystem. A total of 15 academics were invited for interview with 13 of those agreeing to participate in the study.
- 2.6 The informal interviews focused on how educational research capacity is developed at the three integrated and interrelated levels highlighted in literature as fundamental to the strengthening of research capacity; the individual level, the organisational level and the environmental level (Department for International Development, 2010; HESA, 2018).
- 2.7 The informal interviews acted as a validation exercise and as an opportunity to explore the educational research capacity initiatives and strategies adopted by

the participants home HEI's. The findings from the informal interviews were triangulated with the evidence collected from the literature review to inform the individual countries case study. The same methodological process was adopted for the Welsh case study.

3. The Development of Educational Research Capacity and Volume in Higher Education at UK Wide-Level

- 3.1 Whilst education is a devolved matter, the recently published [UK Research and Development Roadmap](#) provides UK-wide guidance on generic government processes to supporting research and development.
- 3.2 In March 2021, the chancellor announced a commitment to spending £22 billion per year on research and development by 2025, with research and development being viewed as fundamental to economic and social recovery from the impacts of COVID-19. The UK government and the devolved administrations will work with academics, business and the community/ voluntary sector with the aim of tackling the biggest issue faced by our society.
- 3.3 The roadmap will be testing out in detail how the UK government and devolved administrations can:
- Increase investment in research and apply research to solving the most pressing problems across society.
 - Become world-class at securing economic and social benefits from research (development of an Innovation Expert Group).
 - Support entrepreneurs and start-ups and increase the flow of capital into businesses carrying out research and development.
 - Take greater account of place-based outcomes in how decisions on research and development in the UK are made (greater collaboration across the UK and with between funders, researchers and practitioners).
 - Provide long-term flexible investment into infrastructure and institutions (building on the UK's system of universities, public sector research establishments and publicly funded laboratories).
 - Be a partner of choice for other world-leading research and innovation nations, alongside strengthening research links with emerging and developing countries.
 - Engage in innovative ways to ensure that science, research and innovation systems are responsive to the needs and aspirations of society.

3.4 The roadmap is the start of a 'big conversation' on what research and development actions need to be taken in the UK. Research and development are viewed as fundamental to society and critical at this time of national crisis. The UK government and devolved administrations are analysing where improvements in research and development processes can be made, and will conduct the following:

- A Spending Review of public funding for research.
- An analysis of the bureaucratic process in research.
- A review of the unhealthy work culture and look at how to retain early career researchers within the profession.
- An assessment of how to re-balance funding across the UK to avoid the concentration of funding in the 'golden triangle' of London, the South East and the East of England.

3.5 The UK also aims to maintain a close relationship with their European partners by seeking a fair and balanced deal for participation in EU research and development schemes (GOV, 2021b). As part of the Trade and Cooperation Agreement (TCA) agreed with the European Union, the UK will participate in the next EU R&D funding programme, Horizon Europe, subject to the finalisation of the programme regulations by the EU. The Horizon Europe (2021-2027) is the European Unions research and innovation framework programme and provides funding for research across Europe. The Horizon Europe has identified 5 mission areas:

- Adaptation to climate change including societal transformation
- Cancer
- Climate-neutral and smart cities
- Healthy oceans, seas, coastal and inland water
- Soil health and food

3.6 The UK government have pledged to commit to meeting any funding shortfalls or implement alternative schemes to support research if the UK does not associate with EU programmes such as Horizon Europe.

4. The Development of Educational Research Capacity and Volume in Higher Education in Scotland

The Scottish Government Educational Research Strategy

- 4.1 In 2016, a Research Strategy for Scottish Education was published following recommendations from an OECD evaluation of the Scottish Education System ([reference](#)). The OECD report encouraged Scotland to adopt a data led approach at all levels of the education system and to increase stakeholder collaboration with the aim of establishing ‘what works’ within the Scottish educational context.
- 4.2 The Scottish Government’s National Improvement Framework and Implementation Plan for education ([reference](#)) includes the following priorities:
- Improvement in attainment, particular in literacy and numeracy.
 - Closing the attainment gap between the most and least disadvantage children.
 - Improvement in children and young people’s health and wellbeing.
 - Improvement in employability skills and sustained, positive school leaver destinations for all young people.
- 4.3 These priorities will aim to be achieved through the development of a research infrastructure, the creation of a knowledge base of ‘what works’ and the capacity of the system to use evidence.
- 4.4 A partnership between the *Education Endowment Foundation* and the Scottish government as well as the development of *Education Scotland’s Interventions for Equity* website (<https://education.gov.scot/improvement/self-evaluation/interventions-for-equity/>) is intended to build the Scottish research infrastructure through:
- Funding for self-directed research by academics and non-government institutes, provided via existing mechanisms (Research Councils) or through tendering processes.
 - Encouragement of educational research on inequalities using a multidimensional approach.
 - Utilisation of existing data bases to provide new analysis and evidence.
- 4.5 The Scottish education system has been undergoing long-term changes and therefore the need to maintain and keep an up-to-date evidence base on ‘what works’ has been identified. This evidence base will gather knowledge and

expertise from not only Scotland but from the UK as a whole and internationally, although consideration of the Scottish context is fundamental. The *Education Endowment Foundation* will provide succinct summaries of international evidence appropriate to the Scottish system in a manner which can be utilised and acted upon by policy makers.

- 4.6 The strategy recognises the need to understand to what extent the teaching profession and school leaders have the capacity to utilise research and data in an effective manner. The education research strategy will aim to foster better relationships between all levels of the education system and particular between teachers and researchers. The strategy will attempt to foster these relationships by the creation of research champions at schools, collaborative research between schools and academics and an accessible research forum.
- 4.7 In 2020, an evaluation of how effectively the aims of the strategy were being progressed was published (KUMS 2020). This was made up of a literature review, interviews and focus groups with key stakeholders at various levels of the education system and an online practitioner survey (m=1036) (KUMS, 2020). The evaluation indicated two specific areas for improvement:
- A need for more effective relationships between practitioners, researchers and policy makers with a greater consideration of how academics could work with those at the school-level.
 - A greater value placed on collaboration to foster engagement with research, data and schools which could enhance the capacity of schooling-staff to systematically engage with data and research.

Generic Funding for Educational Research

- 4.8 In addition to the work of the strategy, generic public funding is provided for university research via:
- The Scottish Funding Council (SFC).
 - Competitively awarded grants from the UKRI.
- 4.9 The SFC are the largest single source of university funding in Scotland with funding being allocated to research, training and development and teaching. Funds are distributed via the SFC through a formula based on the REF results, with these funds supporting university infrastructure. These funds finance universities time and provide a base for individuals to conduct research.

4.10 Funding from other sources such as the UKRI (See England case study for further details), EU, government departments, charitable foundations and industry often finance specific research projects.

Individual University Strategies

4.11 At the level of individual universities, the following mechanisms were noted as being key to the development of educational research capacity in Scotland (University of Glasgow, 2015; University of Edinburgh, 2017; University of Stirling, 2015):

- The encouragement of interdisciplinary research through cross cutting research institutes and centres and via multidisciplinary teams.
- Creation of a nurturing and lively research environment which is facilitated by human, financial and infrastructural resources. This will promote effective leadership and provide opportunities for researchers to reach their full potential via research engagement opportunities and contributions to knowledge generation.
- Attracting and fostering of excellent researchers with strategies including protected research time, early career researcher development programmes, development opportunities and the removal of disadvantages to progression that arise from career breaks.
- The strengthening of partnerships and communication with one approach including the inclusion of research partners at all stages of research (co-production) from design to dissemination.
- Creation of the conditions in which universities can forge and nurture collaboration within and beyond the university. This can be achieved through collaboration with industries, third-sector, policymakers, practitioners and the public.
- For example, The Data for Children Collaborative a unique partnership between UNICEF, The Scottish Government and the University of Edinburgh, hosted by the Data Lab. The goal of the partnership is to leverage expertise from partner organisations with the aim of addressing existing problems of children and young people using innovative data science techniques. The role of the partnership is to utilise data, skills and expertise to produce real- world impacts that help the world's children.

- The creation and maintenance of international collaborations via hosting visiting researchers, the appointment of international staff and multinational joint authoring.
- Ensuring research activities are innovative, transformative and demonstrate impact that has reach and significance both nationally and internationally.
- Increase the visibility of research activities through a strong social media presence with the aim of attracting students, staff and potential funders.

Summary

4.12 Scotland's approach to developing educational research capacity and can be summarised as follows:

- A government-led strategy linked to national educational priorities.
- There is also generic government (Scotland and UK) and non-government funding for university level research.
- There are also individual university research strategies.

5. The Development of Educational Research Capacity and Volume in Higher Education in England

Generic Funding for Educational Research

- 5.1 There is no current discrete governmental strategy to support educational research, but educational research is able to benefit from more generic opportunities provided by the government through *Research England* and the *UK Research Innovation (UKRI)*.
- 5.2 *Research England* (RE) provides funding for university infrastructure and contributes towards the cost of permanent academic staff, premises, libraries, training for new researchers, among other things. Annually the government allocates funding to RE which distributes it to HEIs.
- 5.3 There are two types of funding allocated by RE: recurrent and non-recurrent. Recurrent funding is relatively consistent over time and is allocated to institutions based on the quality, volume and cost of research in different subject areas.

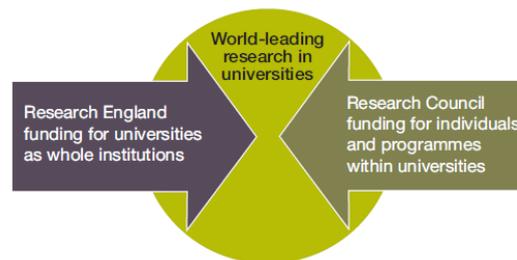


Figure 1: The dual-support system of public funding for research.

- 5.4 The *UKRI* encompasses seven discipline-specific research councils which provide funding to support specific programme, projects and research students. Monies for research is typically awarded via a competitive bidding process.
- 5.5 The seven research councils that provide funds for research:
- Arts & Humanities Research Council (AHRC)
 - Biotechnology & Biological Sciences Research Council (BBSRC)
 - Engineering & Physical Sciences Research Council (EPSRC)
 - Economic & Social Research Council (ESRC)
 - Medical Research Council (MRC)
 - Natural Environment Research Council (NERC)

- Science & Technology Facilities Council (STFC)

5.6 In addition, the government provides funding for knowledge-based interactions between academics and the wider world through the *Higher Education Innovation Fund* (HEIF, 2021). The purpose of the fund is to support knowledge exchange and supports and incentivises HEIs to work with businesses, the public, the third sector and community bodies. According to a HEIF report (2021) for every £1 invested in funding, £6.10 is generated. Funding is allocated based on performance and informed by the results of the annual *Higher Education and Community Interaction (HE-BCI) survey* and subject to acceptance by *Research England* of institutional strategy and plan for knowledge exchange.

5.7 Non-governmental funding is available from a range of bodies including the European Commission, charities and businesses from the UK and overseas. For example, the *Education Endowment Foundation* a charity which is dedicated to breaking the link between family income and educational achievement funds a range of research related to raising the attainment and developing the skills of those facing disadvantage (EEF, 2021). In the EEF (2018) 2017-18 annual report, total grant expenditure amounted to £11.3 million with £5.1 million being granted to research and 7.2 million granted to 22 projects.

Individual University Strategies

5.8 At the level of individual universities, the following are examples of strategies and initiatives designed to support educational research capacity and volume (University of Oxford, 2015; University of Manchester; Exeter University, 2016; UCL, 2019):

- Creation of a vibrant and supportive research culture through the provision of a physical space for researchers where there is a sense of shared values which encourages engagement in research, promotes open communication and recognises and publishes in the wider domain researcher's achievements.

- Collaboration with other academics, businesses and industry experts across the globe to deliver research which is high in quality, value and impact.

Development of an Educational Research Culture

University of Exeter, School of Education Research Centres

The school of education has 5 research centres which are externally funded through major research grants, strategic funding and local partnerships. The centres conduct internationally recognised research and provide postgraduate programmes and research supervision. These centres are:

- Centre of Research in Writing
- Centre for Research in Professional Learning
- Centre for Research in STEM Education (CRISTEME)
- Centre for Special Education Needs and Disability
- The Centre for Social Mobility

The research centres play a fundamental role in enhancing an active and supportive research culture within the school of education. Every academic staff member within the school of education is a member of one research centre which acts as their intellectual home. However, these staff members can be affiliated with other centres or educational research networks (networks yet to gain the status of research centres) which align with their research interests. Each centre organises research activities which contribute to a sense of community and belonging and further enhance the research culture. These activities include reading papers together, developing research grants, organising seminars and conducting cross-centre research.

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centres) which align with their research interests. Each centre organises research activities which contribute to a sense of community and belonging and further enhance the research culture. These activities include reading papers together, developing research grants, organising seminars and conducting cross-centre research.

- Connecting with the public and strengthening local links thereby conducting research on local issues within the surrounding community, including connecting and collaborating with local authorities, third-sector organisations and schools. This was of particular high importance and value to universities far from London and Westminster.
- Attraction and nurturing of excellent researchers at all stages of their careers. Strategies to support this include early-career mentoring, academic leave to conduct research, specific research-skills training and investment in researchers via university funded PhD awards and fellowship schemes.
- For example, the University of Manchester's Presidents Doctoral Scholar Award funding initiative offers 100 elite postgraduate research students an additional £1000 funding annually to their PhD funding as well as (University of Manchester, 2021):
 - Invitations to a series of exclusive events whereby there are opportunities to meet the University's Presidents and Vice Chancellor.
 - International researcher leadership under distinguished scholars.
 - Transferable skills training programmes.
 - President's Doctoral Scholar Medal.

Summary

5.9 England's approach to developing educational research capacity and volume can be summarised as follows:

- There is not a government-led strategy linked to national educational priorities.
- There is generic government (England and UK) and non-government funding for university level research.
- There are individual university research strategies.

6. The Development of Educational Research Capacity and Volume in Higher Education in Northern Ireland

Generic Funding for Educational Research

6.1 As is evidenced below, the unique societal and political landscape in Northern Ireland resulting from a prolonged period of civil conflict and political instability has led to a more collaborative and specialist research approach (Leitch, 2009).

6.2 The Northern Ireland Government does not have a discrete strategy for educational research, but the higher education strategy for Northern Ireland (NI) 2012-2020 ([Graduating to Success](#)) sets out a vision for higher education which includes:

- Improving NI universities position in the Research Excellence Framework.
- Increasing postgraduate funding and provision to support and increase the development of a knowledge-based society.
- Developing a higher education environment which supports world-class research via:
 - Funding for research and development infrastructure.
 - Encouraging universities to apply for external research funding.
 - Adopting a collaborative approach to research which exploits NI's geographical position within Europe (pre-Brexit) and internationally, in particular building and fostering existing links with the Republic of Ireland and the United States of America.

6.3 The NI Government Department of Economy provides funding to universities through a range of mechanisms. In line with the other UK nations, a dual support system is implemented with the majority of recurrent research funding being distributed by reference to quality as assessed by the REF. This funding (quality research funding) is primarily utilised to support the infrastructure required to conduct research. This funding is supported by UKRI specific project funding which is typically distributed via grants (see England Case Study for further information).

6.4 Funding for educational research is often provided by non-governmental organisations such as the Nuffield Foundation, UNESCO, UNICEF, the

Wellcome Trust, Barnardo's and the Social Change Initiative. Funding is also granted from philanthropic organisations such as *Atlantic Philanthropies* (2021).

- 6.5 *Atlantic Philanthropies* grant making in NI dates back to the 1990s and from 1990-2014 *Atlantic* (2021) invested nearly \$570 million in NI, primarily around programme related to the peace process and programmes to improve people's lives. Many of these programmes and interventions focused around helping young people grow and flourish.
- 6.6 The NI Government Higher Education Research and Knowledge Exchange branch is responsible for "the formulation, development, and oversight of the implementation of higher education research and knowledge exchange policy and funding in accordance with Northern Ireland's needs" (Department for the Economy, 2021b).
- 6.7 The department provides additional capital funding for research through the higher education research capital (HERC) fund which utilises monies from the Department for Business, Energy and Industrial Strategy. The HERC aims to contribute to long-term sustainability of HEI research activities, contribute to areas of past underinvestment and promote world-lead research capability in all disciplines (Department for the Economy, 2021c).
- 6.8 The NI government also facilitates knowledge exchange through the NI *Knowledge Exchange Seminar Series* (KESS). KESS is the first of its kind in the UK and is a formal partnership between a legislative arm of government and academia. The seminars bring research findings to the attention of key participants and decision makers in policy and law-making. KESS aims to encourage debates and improve understanding, providing a forum to present and disseminate academic research findings on issues relevant to governance in NI in a straightforward manner. Seminars are held on the Stormont Estate and attendees at the conference include members of the NI assembly, others from public and private sectors, academics, voluntary and community groups providing unique engagement opportunities.
- 6.9 In NI there are close relationships between policymakers, academia, the community/voluntary sector, and businesses. Academics have relatively easy access to politicians and policy makers, particularly as many of those individuals are likely to have studied at NI institutions before establishing their careers.
- 6.10 An example of the academic-policy relationship in practice is the development of the shared education agenda. Policymakers were involved in all stages of shared education research meaning that research recommendations were within policy frameworks and had the potential to be translated into practice.

6.11 Academics from Queen's University Belfast often collaborate with other divided societies across the globe to offer insight into the transition from conflict. These collaborations have seen academics and policymakers travel together to divided societies across the world. These collaborations are intended to exemplify the NI academic-policy engagement model and provide policymakers in other divided societies the opportunity to engage with NI policymakers and discuss the research to practice dynamic and the complex processes involved.

Individual University Strategies

6.12 Individual university strategies and initiatives for developing research capacity and volume include (Queen's University Belfast, 2016; Ulster University, 2017a):

- Promotion of sabbatical leave for research purposes. For example, at Ulster University at least one sabbatical period is available per research institute.
- The establishment of a Faculty Research Grant Review Panel and a Faculty Research Initiative Fund to complement existing University-wide funding at Queen's University Belfast (2016). The Faculty Research Initiative Fund supports activities directly associated with the early identification and preparation of research grant applications to the UKRI and equivalent funders. The scheme rewards grant success by making funding available to individual academic and research staff. Staff are awarded 1% of the total amount of external income recorded against their name. In the 2016/17 academic year a total of £147,708 was awarded to researchers across the Faculty of Arts, Humanities and Social Sciences equating to approximately £1,500 per person.
- Provision of support and training for staff members is available through start-up funding packages for earlier career researchers and mentoring programmes. For example, The University of Ulster's Research (2017b) Income & Grant Opportunities for Ulster Researchers (RIGOUR) programme was launched to help academic researchers enhance and improve grant applications to external funding bodies. The programme organises events across all campuses and provides researchers opportunities to gain a better understanding of funder requirements, the application process and hear about researchers' personal experiences.
- Creation of a research environment and a culture of research ambition via initiatives such as:

- Supporting each academic member of staff to meet with a senior colleague at least once a year to develop and review individual publications and external grant application plans.
- Establishment of Faculty Research Forums.
- The Distinguished Research Fellow Faculty Award and Early Career Research Excellence Faculty Award which are awarded annually at the Ulster University (2021).

Supporting Researchers Career Development:

The Concordat to Support the Career Development of Researchers, A UK Wide Initiative

The Research Development Concordat was launched in 2019 and sets out the expectations and responsibilities of researchers, their managers, employers and funders (NI GOV, 2021). In Northern Ireland, the director of higher education division on behalf of the department of economy confirmed national commitment to the Concordat to support the career development of researchers (Department for the Economy, 2019). The research development concordat is a UK wide strategy that support the development of an excellent research environment and culture, opportunities for professional and career development and employed and managed under conditions that recognise their value and their contributions (Department for the Economy, 2021a). In addition, the NI department for the economy also demonstrate their national commitments to the concordat to support research integrity and the concordat for engaging the public with research (both UK wide strategies) (Department for the Economy, 2021a).

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- To support a sense of belonging to a research community during the COVID-19 pandemic, The School of Social Science, Education and Social Work at Queen University Belfast introduced '30 Minutes With' an initiative to support communication and networking during the pandemic. The 30-minute sessions are online once a week and invite academics and students to speak about their work for 20 minutes followed by 10 minutes for questions.
- Research internationalisation through ensuring researchers identify and develop collaborative partnerships with world-leading centres or institutes alongside an international approach to recruitment.
- The fostering of a vibrant postgraduate community via postdoctoral development plans to guide students academic and professional careers together with the encouragement of relationship building between PG research students and contracted research staff.

Centre of Research Excellence

The UNESCO Centre, Ulster University

The UNESCO Centre based at Ulster University (2020) is a leading voice in education research focusing on improving education practice and policy, integrated education and academic selection in Ireland. The UNESCO centre is an example of how NI have become experts within an area of research which is relatively unique to the landscape of Northern Ireland, conflict and peacebuilding. Internationally, the UNESCO centre (Ulster University, 2020) has partnered with leading international institutions to deliver projects which examine the role of education in peacebuilding, international development, and conflict. The UNESCO chair programme was established to advance research, training, and programme development in UNESCO's fields of competence and encourage inter-university cooperation and collaboration (Ulster University, 2020). Professor Alan Smith a Senior Research Fellow at Ulster's Centre for The Study of Conflict holds the UNSECO chair.

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The UNESCO Centre, Ulster University

The UNESCO Centre based at Ulster University (2020) is a leading voice in education research focusing on improving education practice and policy, integrated education and academic selection in Ireland. The UNESCO centre is an example of how NI have become experts within an area of research which is relatively unique to the landscape of Northern Ireland, conflict and peacebuilding. Internationally, the UNESCO centre (Ulster University, 2020) has partnered with leading international institutions to deliver projects which examine the role of education in peacebuilding,

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- Promotion of interdisciplinary research through researchers being incentivised to work across themes and disciplines to tackle the problems that are unique to Northern Ireland. Interdisciplinary research and collaboration have been identified as fundamental for Northern Ireland due to the countries size and its historical of political dysfunction.
- In addition to the previous point, there is a recognition of the importance of fostering relationships across Ireland. Traditionally, NI have been more GB facing however in the context of Brexit there is recognition of the importance of collaborating across Ireland, an example being the All-Ireland Doctoral Conference, which is a yearly conference organised by PGR students for PGR students. The conference is an Arts, Humanities and Social Sciences conferences and is held at Queens University Belfast. The conference's objectives is to provide opportunities for postgraduate research students to connect with others across Ireland, practice formal presentation skills and broaden knowledge.

Summary

6.13 Northern Ireland's approach to developing educational research capacity and volume can be summarised as follows:

- There is not a government-led strategy linked to national educational priorities, although the unique situation faced by Northern Irish society influences the general environment for educational research.
- There is generic government (Northern Ireland and UK) and non-government funding for university level research.
- There are individual university research strategies.

7. The Development of Educational Research Capacity and Volume in Higher Education in Ontario

Country Profile

- 7.1 In Canada, whilst the basic structures of provincial and territorial educations are similar with all employing an elementary, secondary and postsecondary tier system each province and territory has individual responsibility for school-aged education and their HEIs (Campbell, 2020). Ontario has been identified as the most proactive province in using research to inform education practice (Sá and Hamlin 2015).
- 7.2 In terms of higher education, there are 21 publicly funded universities in Ontario, with campuses in 30 communities (Ontario Universities, 2021). Of these 21 publicly funded universities, 9 are French- language or bilingual (Ontario, 2021). At the international level in the 2021 QS World University Rankings, 3 of Ontario's University were placed in the top 100 worldwide universities with the highest ranked being the University of Toronto (n=29th).

The Ontario Research and Evaluation Strategy

- 7.3 Ontario's high performing education system is seen to be partly attributed to the Ontario Ministry of Education's commitment to research-informed education policies (The Royal Society, 2018). The [Ontario Research and Evaluation Strategy](#) (ORES) published by the Ontario Ministry of Education in 2015 sets out Ontario's commitment to, 'developing and implementing policies, programmes, and practices that are evidence-based, research-informed, and connected to provincial education goals' (OME, 2015; 1). The strategy supports an all-inclusive educational approach whereby all stakeholders within the education system are working towards making research-informed policy and practice the norm (KNAER, 2017).
- 7.4 The strategy is focused around producing research which supports Ontario's priority education goals (improved student achievement, reduced gaps in achievement and increased public confidence).
- 7.5 There are 6 key components to the strategy (OME, 2015):
- Developing the Education Ministry Research Strategy.
 - Applying Research and Evaluation to support evidence-based policy and programme decisions.
 - Building Research Capacity at all levels to access, use, and conduct research and evaluation.

- Fostering research collaboration through Networking and Partnerships at all levels of the education system, supported through the Ontario Education Research Panel (OERP) which champions research networks and collaborative partnerships and the Ontario Education Research Symposium.
- Mobilizing and Communicating well-validated bodies of knowledge so that this knowledge can be used to shape education policy and practice.
- Contributing to the provincial, national, and international body of research knowledge in relation to education policies, programmes and practices through research conferences and national and international dialogues.

7.6 The listed components of the ORES contribute towards the development of educational research capacity at all levels of the education system. One ORES initiative saw the establishment of the *Ontario Education Research Panel (OERP)*, a panel which aimed to facilitate discussion and collaboration amongst ministries, faculties of education, researchers, school boards, professional organisations and community agencies. The OERP mission was to “harness, encourage, promote, and disseminate the many good examples in boards, schools, and classrooms” and foster a sustainable collaborative community in Ontario’s education sector (KNAER-RECRAE, 2017).

7.7 In addition, the ORES established *The Knowledge for Applied Education (KNAER)* network through a tri-partite agreement between the University of Toronto, Western University and the Ontario Ministry of Education. The core values of the network were to collaborate, communicate and connect with the aim of advancing and applying robust evidence of effective research-informed educational practice through:

- Promoting research use.
- Synthesising state-of-the-art knowledge from existing bodies of evidence.
- Facilitating networks of policy makers, educators, and researchers to work collaboratively, to apply research to practice.

7.8 Phase 1 of KNAER funded 44 projects that focused on mobilising research-based evidence throughout the province. Table 1 shows the categories of organisations involved with the total number of project partnerships.

Organisation type	Total number of participants
Community organisations	60
School boards	46
University partnerships	22
Health organisations	10
Colleges	8
Total number of partnerships	146
Total cost	\$4 million (CDN)

Table 1. Knowledge Network for Applied Research (KNAER) collaborative organisation partnership breakdown.

7.9 As table one shows a range of organisations were involved in the partnerships which aimed to mobilise research-based evidence. The KNAER network developed four thematic networks: Mathematics Knowledge Network; Knowledge Network for Student Well-being; Knowledge Equity Network; and the Indigenous Education Knowledge Network which were used to enhance ‘knowledge mobilisation’ on four specific themes (KNAER, 2017). Nevertheless, The Mathematics Knowledge Network is the only KNAER remaining which could be attributed to the network closely aligning with the governments focus on strengthen math skills across the province.

7.10 After the publishing of ORES, a change in government and the end of the funding period brought an end to many of these initiatives.

Generic Funding for Educational Research

7.11 Ontario has a wide array of publicly funded and not-for-profit research organisations that provide funding for research. Universities are publicly funded by the government of Ontario and that includes funding for research infrastructure through a government established formula. Public funding for research is allocated via bidding and commissioning processes similar to the UK and funds are distributed from research councils and the Ministry. As in the UK, researchers will seek out grants and outline research proposals with the hopes of being awarded funding from both public and non-public funders.

7.12 An example of federal funding which academics compete for is the *Canada Research Chairs Programme*. The programme is a tri-agency initiative between the Social Science and Humanities Research Council (SSHRC, the Natural Science and Engineering Research Council (NSERC) and the Canadian Institute of Health Research (CIHR). The Canada Research Chairs Programme invests up to \$295 million per year to attract and retain some of the world’s most accomplished and promising minds (Canada Chairs, 2019). Chairs aim to achieve research excellence within their field and improve Canadas’s depth of knowledge and quality of life through research-based evidence. The programme

aims to attract world-class researchers to reinforce academic research and training excellence in Canadian postsecondary institutions (Canada Chairs, 2019).

Individual University Research Strategies

7.13 Individual university strategies and initiatives to support educational research include (UoT, 2018; York University, 2018):

- The provision and establishment of an environment that supports research and attracts top faculty, staff, students, and trainees. This can be achieved through providing access to cutting-edge research infrastructure, promoting inclusivity and diversity and the utilisation of research librarians and archivists who are active stewards of the university research assets.
- Ensuring all students have opportunities to engage in research and innovation experiences. For example, within Ontario's Institute for Studies in Education (OISE) at the University of Toronto offers trainee teachers the unique opportunity to undergo teacher training alongside completing a master's degree. The Master of Teaching and Master of Arts in Child Study and Education both include a research element alongside the teacher training elements. This unique opportunity hopes to support the development of a research literate teaching profession.

Contributing to the Wider Community:

Providing a 'Service' to the Wider Community, The University of Toronto

The University of Toronto places a strong emphasis on service to the wider community. Academics are allocated 40% teaching time, 40% research time and 20% service time in their workload models. By service time the university means a contribution to the broader community whether this is advisory work for the government, working with teachers' unions, working with different layers of the education eco-system, or working with community organisations. Staff members service to the wider community is encouraged in their annual performance review and having impact within the wider community as well as the academic community is valued and of importance to the university.

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government, working with teachers' unions, working with different layers of the education eco-system, or working with community organisations. Staff members service to the wider community is encouraged in their annual performance review and having impact within the wider community as well as the academic community is valued and of importance to the university.

- To produce high- quality research at the provincial, national and international level, commitments to the establishing partnerships within the research and innovation ecosystem are viewed as fundamental (academic divisions and campuses, affiliated hospitals, government and not-for-profit partners, communities, organisations and institutions). For example, The York University have over 200 active research partnerships with international institutions that enable the movement and exchange of knowledge, expertise and researchers.
- Communicating and celebrating the value of research and innovation achievements both at the individual and faculty level. This includes emphasising and promoting peer-reviewed research, publications, and contributions by faculty members. For example, OISE at the University of Toronto recognise and promote the institutes and their researchers' achievements via their website (www.oise.utoronto.ca) and via their Twitter account ([@OISEofT](https://twitter.com/OISEofT)).

Summary

7.14 Ontario's approach to developing educational research capacity and volume can be summarised as follows:

- There is a government-led strategy linked to government educational priorities, although since a change of government this is not supported as strongly as in the past.
- There is generic government and non-government funding for university level research.
- There are individual university research strategies.

8. The Development of Educational Research Capacity and Volume in Higher Education in New Zealand

Country Profile

8.1 The New Zealand Education System is made up of 4 stages: primary, intermediate, secondary and tertiary. New Zealand's tertiary education system constitutes 8 state funded universities, 16 technology and polytechnic colleges and approximately 550 private training establishments (Education New Zealand, 2021). The 8 state funded universities offer a range of research-led programmes which are academic rather than vocational.

Generic Funding for Educational Research

8.2 The Education Act of 1989 requires teaching at degree level and above to be shaped and informed by research, and those teaching at degree-level must be active in research. [The Ministry of Educations \(MoE\) Four Year Plan](#) (2016) further highlights the importance of research and recognises research as a fundamental enabling condition for the achievement of New Zealand's education system's goals.

8.3 The MoE (2016) four-year plan encourages tertiary providers to work with industries to improve the relevance of research being conducted and achieve greater transfer of knowledge and expertise between sectors.

8.4 Whilst in New Zealand there is no discrete national strategy for educational research, the [Tertiary Education Strategy](#) denotes strengthening research-based institutions as one of the six strategic priorities for tertiary education.

8.5 In recent years Tertiary Education research capacity has been supported by increased external funding for research and governmental funding (New Zealand Government, 2014). The *Performance Based Fund* encourages the development of a research workforce and reward Tertiary Education organisations (TEOs) who are awarded external research funding (New Zealand Government, 2014).

8.6 The government also supports collaboration between TEOs, between them and businesses and other research organisations to encourage knowledge exchange and specialise in particular areas (New Zealand Government, 2014). Additional activities that were encouraged to help build research capabilities and the quality and reach of research include the provision of more internships and employer-linked postgraduate research.

8.7 In New Zealand, educational research is primarily funded via two channels:

- The Performance Based Research Fund (PBRF).
- External funding through contracts firms, organisations and philanthropists.

8.8 The performance- based funding system was developed to encourage and ensure excellent research in degree-granting organisations (universities). The objectives of the PBRF are to increase the quality of research at degree-granting tertiary education organisations (TEOs) and support world leading teaching and learning. The PBRF uses a peer review and performance indicators system, differing from a pure peer review model (UK) and a pure indicator model (AUS) (Ministry of Education, 2006). The PBRF acknowledges that excellent research is not only about the production of high-quality research articles, books and other forms of research output but is about the production, application and dissemination of knowledge to not only to other academic but to the wider community.

8.9 The PBRF does not fund research projects directly, but supports research, via funding for teaching and post-graduate research. The fund is accessed by Universities, Institutes of Technology and Polytechnics and private training establishments. The monies given to the PBRF is determined by the government's annual budget, and funding for TEO's is determined by the PBRF. The PBRF is conducted on a 6 yearly cycle and comprises of three review components:

- A Quality Evaluation (55% of the Fund) of the research performance of staff eligible at TEO's. This is presented in an evidence portfolio which is reviewed by an expert peer review panel and against agreed standards. This process is subsequently moderated by the Principal Moderator and Deputy Moderators.
- Research Degree Completion (25% of the Fund) captured through a yearly measure of the number of PBRF eligible postgraduate research degrees completed at each participating TEO.
- External Research Funding (20% of the Fund) captured through a yearly measurement of the amount and type of income received from external sources for research purposes. External funding is more favourably awarded to scientific disciplines and external funding opportunities for humanities subjects is often limited.

8.10 In addition, the Tertiary Education Commission has established a *Centres of Research Excellence* (CoREs) fund to encourage the development of high-

quality research which is collaborative and creates significant knowledge transfer activities (Tertiary Education Commission, 2020a). CoRE's were established in 2002 and the government has since provided over \$434.5 million in funding to projects which are researching important issues such as food science, dementia-prevention and human health (Tertiary Education Commission, 2020a). There is no evidence of established education-related CoREs.

Individual University Research Strategies

8.11 The following strategies and initiatives are adopted by individual universities to support the development of research volume and capacity (University of Auckland, 2020; University of Canterbury, 2020):

- The provision of opportunities for senior colleagues to work with and support emerging researchers via nurturing relationships, mentoring schemes, symposia's, seminars and conferences.
- The development of interconnected and transdisciplinary research teams across schools and faculties both within universities and with other universities, nationally and internationally.

The Performance Based Research Fund: A Barrier to Collaborative Practice in New Zealand Higher Education Institutions

In terms of the PBRF, all universities pay a great deal of attention to the PBRF and the demands of the exercise. The PBRF dominates the consciousness of universities and is a deterrent to one of the recognised facilitators of educational research capacity; collaboration and cooperation. The PBRF ranks universities according to how they do in the PBRF meaning universities are in direct competition with one another, similar to the UK REF. Not only does the funding universities receive act as a direct result of the exercise, the exercise effects to what extent universities can attract international students and top-quality staff members. Moreover, at the ideological level the principles of competition have become embedded within policy and institutional consciousness; partly due to universities wanting to position themselves favourably to maximise their role in the market both at the national and international level. For co-operation and collaboration to be encouraged across HEIs, it is suggested that the PBRF needs to recognise and promote collaboration within the quality assurance framework.

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- The production of research which is not confined to national boundaries and which considers a broader international focus, to increase the reputation of research in New Zealand.
- The provision of high-quality supervision to post-graduate students which is key to the advancement of knowledge in specialised areas and opportunities for all students to participate in research. For example, Victoria Summer Research Scholarships at the Victoria University of Wellington (2021b) offer students opportunities to participate in a 10-week research placement in a business or organisation within their area of study. Each scholarship grant includes a minimum stipend of \$6,000 and aims for students to gain experiences of data collection, analysis, literature reviews, interviewing skills and the use of specialist software.

- A greater focus on the building and fostering relationships with indigenous populations to conduct research which is central to the problems experienced by the people of New Zealand. This will include building relationships and collaborating with schools, businesses, third sector organisations.

Promotion and Support of Māori Educational Research:

Māori Research at Te Herenga Waka—Victoria University of Wellington

Māori research at Te Herenga Waka—Victoria University of Wellington (2021) spans almost all disciplines and methods and is a fundamental part of the universities research programme. The university is committed to building mutually-beneficial relationships with Māori who have an interest in developing inter-generational growth, skills, experienced and success. Research topics at Te Kura Māori include Māori-medium education, improving educational aspirations, wellbeing, higher education and youth studies, education for sustainability and many other topics. Toihuarewa, a subcommittee of the Academic Board and the forum for Māori academic issues actively encourage Māori research through the provision of professional development opportunities, research symposiums and international scholar exchange. In addition, the university works with more than 60 iwi and Māori organisation and promotes scholarships, internships and research opportunities to iwi and Māori students and researchers.

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Summary

8.12 New Zealand's approach to developing educational research capacity and volume can be summarised as follows:

- There is not a government-led strategy linked to educational priorities.
- There is generic government and non-government funding for university level research.
- There are individual university research strategies.

9. The Development of Educational Research Capacity and Volume in Higher Education in the United Arab Emirates

Country Profile

- 9.1 The UAE is a federation of seven autonomous states that vary in their population size and economic development. The UAE education system has undergone monumental changes in the past 50 years. Historically, education was limited to a small number of formal schools, heavily influenced by Islam and education was catered towards male students (Kamal and Trines, 2018). However, since the discovery of oil in the emirates and the UAE's gaining of independence the emirates have established a modern, mass scale education system (Kamal and Trines, 2018).
- 9.2 Today, the structure of the UAE education system closely resembles the American education system and features; a K-12 school system, two-year associate degrees, four-year bachelor's degrees, two-year master's degrees, and doctoral degrees (Kamal and Trines, 2018; PWC, 2019). Each emirate has a high degree of autonomy in relation to educational policy although the harmonisation of education system is seen as a national key priority (Knight, 2014). In comparison with the other selected case study countries, the UAEs education system is relatively young.
- 9.3 There are public and private universities in the UAE. Public universities account for the minority of universities and are overseen by the Ministry of Higher Education and Scientific Research. There are approximately 99 private higher education institutions in the UAE with 83 of these institutions being within either Abu Dhabi or Dubai. These HEIs include academic universities, fashion schools, business schools and international institutions that have campuses in the UAE, including from the UK.
- 9.4 The emirates recognition that oil will not be infinite have contributed to the UAE's mantra; skills are infinite- oil is not and the development of a strategic approach to education and skills policies for the UAE (OECD, 2015). The Ministry of Education's strategic objectives also note that one of their key objectives is to "strengthen the capacity for scientific research and innovation in accordance with the quality, efficiency and transparency standards" (UAE MOE, 2021).

Generic Funding for Research in Higher Education

- 9.5 Whilst there is no specific government strategy for educational research there is a national higher education strategy which details national-level initiatives to support educational research capacity building.

9.6 *The National Higher Education Strategy 2030* aims to build and achieve the highest scientific and professional education standards. The strategy aims to develop high quality vocational education as well as an academic system which will produce effective research outputs to contribute to driving the wheel of a knowledge-based economy (UAE, 2021).

9.7 The UAE government outlines four main pillars to achieve this strategy (MENA Herald, 2021):

- Quality: Applying high-quality accreditation standards and providing incentives for institutions to enhance competition and increase global rankings.
- Efficiency: Achieving optimal productivity in HEIs and increasing students' completion rate.
- Innovation: Creating an educational environment that fosters scientific research and provides competitive funding's to increase research outputs and contributes to advancements in knowledge.
- Harmonisation: Preparing a generation of qualified graduates to compete in the labour markets.

9.8 Due to UAE censorship, the 33 key initiatives outlined in the *National Higher Education Strategy 2030* are not publicly available. However, several of the initiatives have been detailed in the public domain and include (MENA Herald, 2021):

- The *Expanded Professional Experience Initiative* which will provide a variety of career training programmes to students such as on-campus work, job shadowing and vocational training.
- The establishment of the *Private Sector Council* which will create a body to regulate the manpower needs of UAE businesses and specify qualifications to work in the HEI system and focus on supporting research and development.
- The *Investment in Knowledge Initiative* which aims to increase the number of PhD students by increasing postgraduate funding and ensuring attractive postgraduate job opportunities.
- The *Competitive Research Fund* will provide funding for research and stimulate collaboration between HEIs and the private sector.

- The *Transparent Classification of Outputs Initiative* will establish clear classification mechanisms applicable to all HEIs and encourage publishing of quality reports to ensure transparency.

9.9 The government recognise that there is a need for the expansion of educational research programmes in HEIs and dissemination of research findings to the wider society (ECSSR, 2014). The three public universities of United Arab Emirates University, Zayed University and The Higher Colleges of Technology all aim to deliver innovative research to support national development in economic, social and cultural areas (ECSSR, 2014). However, much of this research tends to feed into university-level programmes and therefore findings from research are not published in the public domain.

9.10 Moreover, many of the private universities in the UAE are branch campuses of universities whose main campuses are overseas. Evidence suggests that these branch campuses often conduct or partake in research activities related to their home countries rather than producing evidence relevant to the UAE context (ECSSR, 2014).

Individual University Research Strategies

9.11 The following initiatives and strategies are being used by individual universities to develop research volume and capacity:

- Building human capacity via the national 'Emiratization Programme' which intends to strengthen the pipeline of talent within the UAE. The programme intends to train Emiratis to become experts in differing areas of the labour market.
- Allocation of dedicated and protected research time to academics within universities. For examples, Zayed University has proposed implementing mission-based workloads whereby positions within faculties will be reorganised to improve capacity for research to be conducted.

- The creation of a culture of research whereby evidence-based research is encouraged and valued. An approach which demonstrates how evidence-based research is produced and how it can have yield benefits for society, the country as a whole and the country's vision is fundamental. This could include the promotion of cultural space within education hubs where educational capacity can be developed and the spirit of science, education and research can be cultivated.

The United Arab Emirates (UAE) as an Education Hub

The UAE is currently pursuing an Education Hub strategy which aims to increase higher education and research capacities by aligning these with economic priorities for achieving advancements in the global economy (Erfurth, 2019). An education hub is a planned effort to build a critical mass of local and international actors through higher education institutions and providers, students, research and development centres working collectively on education, training and knowledge production (Knight, 2014). There is a vision to make the UAE a knowledge based economy and a major education hub in the Middle East (Knight, 2014). The foundation of the UAE education hubs is focused around the development of geographical and physical space for education. For example, an area in which there is a high concentration of physical buildings which home certain discipline. However, a review of the hub systems indicated there is a need for the creation of a research environment and a cultural space in higher education to compliment the development of the geographical and physical aspects of education hubs (Erfurth, 2019).

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- The need to find a balance between fundamental and applied research to produce world-class research-intensive universities. Universities need to find a balance between research which is aimed at

understanding fundamental principles and aimed at solving the problems of society.

- Greater cooperation and collaboration between Emirati universities as well as with international institutes, considering the resources and strengths of each emirates alongside the needs of the country and vision.
- Encouraging the exploration of interdisciplinary research which answers the critical problems facing the country. For example, the University Arab Emirates Universities (2021) mission is to produce world-class knowledge that is embedded in and sensitive to the unique culture of the UAE through the use of interdisciplinary research.
- The establishment of an infrastructure that enables internal and external dissemination and promotion of knowledge and ideas leading to enhanced visibility.

Summary

9.12 The UAE's approach to developing educational research capacity and volume can be summarised as follows:

- There is not a government-led strategy linked to educational priorities.
- There is generic government and non-government funding for university level research.
- There are individual university research strategies.

10. A Case-Study From Wales: The Centre for Development, Evaluation, Complexity, and Implementation in Public Health Improvement (DECIPHer)

Context

10.1 DECIPHer is a public health research centre of excellence, situated within the School of Social Sciences at Cardiff University. The centre is funded by the Welsh Government through Health and Care Research Wales. DECIPHer engages academic, policy, practice and population user communities to co-produce and undertake health improvement research to improve the health of the population, while reducing inequalities (DECIPHer, 2021a).

10.2 The centre brings together leading experts from a multitude of disciplines to tackle public health issues, with a particular focus on the development and evaluation of multi-level interventions that impact on children and young people's health and wellbeing (DECIPHer, 2021a). Whilst the centre is a primarily viewed as a 'public health' research centre, health and education are intrinsically connected and therefore much of DECIPHer's research is conducted within the school-setting. This often involves collaborating with, or researching those, in the education system whether that is young people themselves, schooling staff or those within public services.

Public Health Improvement Research Networks (PHIRNS)

10.3 DECIPHer (2021d) adopts a transdisciplinary network cycle approach to tackle complex public health challenges. The centre has developed three high impact networks with the first being PHIRN which was established in 2005. The network aimed to work with policymakers and practitioners in the early stages of research to generate research questions and promote naturalistic experiments (DECIPHer, 2021d). Since 2005, this approach has secured £50 million of research income through the implementation and encouragement of the following strategies (DECIPHer, 2021d):

- Establishment of local, regional, national and international strategic partnerships.
- Development of transdisciplinary capacity through short course provision and placements.
- Engagement and co-production of research through research development groups.
- Pilot work with workplaces such as Public Health Wales.

10.4 PHIRNS have become routine practice within DECIPHer and have led to the concentrated development of more of focused networks (ALPHA and SHRN).

Advice Leading to Public Health Advancement (ALPHA)

10.5 Developed by DECIPHer, ALPHA is an advisory group comprising of a group of young people aged 14-25 living in Wales. ALPHA advise researchers by discussing and debating their views on public health areas and the researchers research plans (DECIPHer, 2021b). Young people are experts in their own lives and offer a different knowledge, experiences and insights which ultimately support and guide public health research (DECIPHer, 2021b). ALPHA is primarily run by a public involvement officer and with the support of a youth worker. The advisory group has been involved in a range of projects, including research on alcohol advertising, drug prevention, school-based health promotion, sexual health, and suicide and self-harm (DECIPHer, 2021b). ALPHA is also active on social media and has a twitter account (@ALPHA_DECIPHer) where it connects with, and disseminates information to, academics, policy makers and the public.

The School Health Research Network (SHRN)

10.6 The School Health Research Network (SHRN) is the largest network of its kind in the world and brings together mainstream secondary schools in Wales, “academic researchers, policy-makers and practitioners from health, education and social care to promote and evidence informed approach to improving young people’s health and wellbeing in the school setting” (DECIPHer, 2021c). The network is a partnership between the Welsh Government, Public Health Wales, Cancer Research UK, The Wales Institute of Social and Economic Research, Data and Methods and is based at DECIPHer. The fundamental purpose of the partnership is to support the strategic alignment of policy, research and practice agendas (DECIPHer, 2021c).

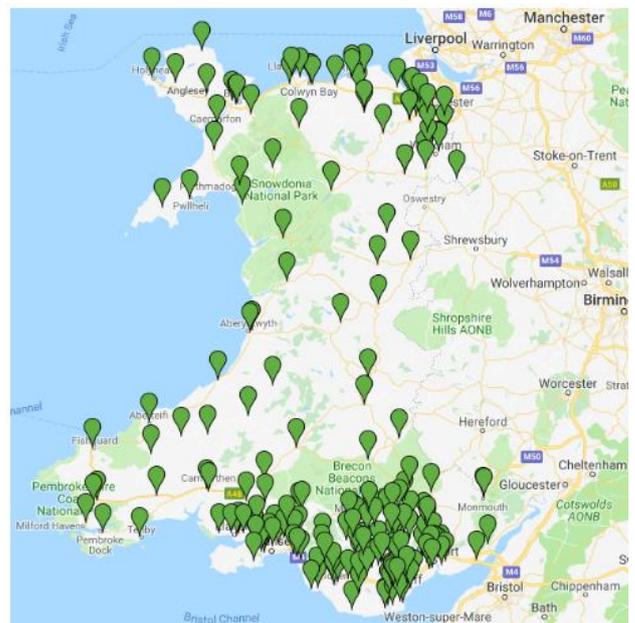


Figure 2: Map of SHRN Schools

10.7 The network has recruited all mainstream, state maintained secondary schools in Wales and some independent schools have opted to become members.

Biannually the network schools complete the bilingual Student Health and Wellbeing Survey and the School Environment Questionnaire. The Student Health and Wellbeing Survey is based on the World Health Organizations collaborative Health Behaviour of School-aged Children (HBSC) Survey and the School Environment Questionnaire allows for relationships between school policies and practices and student health outcomes to be investigated (DECIPHer, 2021c).

10.8 The network connects and disseminates findings with SHRN schools and key stakeholders through (DECIPHer, 2021c):

- Individual school research briefings which provide schools with tailored health and wellbeing reports, benchmarked against national data. These reports are tailored in an easily digestible manner and aim to support continuous school health systems improvements.
- Research briefings (aggregated national data) are distributed to schools and policy partners for knowledge transition and continuous school health systems improvements.
- Webinars are broadcast to inform and engage schools across Wales in SHRN research findings and encourage discussions between all network stakeholders.
- A termly newsletter is circulated to all SHRN schools and key stakeholders with SHRN summaries and alerts which signal schools to network engagement opportunities.
- Academic publications which are produced from the data collected from the Student Health and Wellbeing Survey and the School Environment Questionnaire.

Research Development Group (RIDG)

10.9 DECIPHer has four programmes of research and priority areas which are overseen by lead investigators who are experts within each area. The four areas are:

- Healthy Public Policy
- Healthy Settings and Organisations
- Health Social Relationships
- Methodological Innovation in Public Health.

10.10 DECIPHer holds monthly Research and Ideas Development Group Meetings (RIDG). Each monthly meeting focuses on one of the research programmes

above and is chaired by the programme lead. The meetings provide an opportunity to discuss the progress of projects, discuss the development of grants applications and is a forum for discuss new ideas which may lead to the development of additional research development groups. All research contracted staff and PGR students are invited to attend and contribute to the meetings and discussions.

Cardiff University Research Opportunities Placement (CUROP)

10.11 The CUROP Programme is a university wide programme that provides summer placements to undergraduate students within a university research environment, working with supervision on staff-defined research projects. The placement offers paid work experience (£200 per week or up to 8 weeks) to undergraduates. DECIPHer (2017) CUROPs have the opportunity to attend and engage in formal and academic activities at the Centre (E.G DECIPHer Forum and Health Challenge Wales Seminars) as well to benefit from a wealth of theoretical and methodological expertise. The programme provides unique opportunities for undergraduates to sample live research, enhance academic skills, and helps students to make informed decisions about their potential futures within academia and research. DECIPHer CUROPs have included work on the following projects:

- The 'Food and Fun' School Holiday Enrichment Programme.
- The Healthy Working Wales Programme.
- The PACERS Study (Physical Activity monitors in an Exercise Referral Setting).
- The Wellbeing in Secondary Education Project (WISE): Improving Mental Health Support and Training Available to Secondary School Teachers.

PhD Mentoring Group

10.12 DECIPHer has established a PhD Mentoring Group which is organised and facilitated by an early-career researcher who has experience of the PhD process. PGR students are invited to bimonthly meetings and discussion points for the meetings are typically decided by the students at the previous meeting. For example, discussion points have included how to write for an academic journal, specific methodological techniques or approaches or how to format and structure your PhD. Meetings can also solely provide a catch-up opportunity for the group leader and the postgraduate students and have no pre-planned agenda. The mentoring group not only provides support and guidance for PGR students but is also a career development opportunity for the early-career researcher who facilitates and leads the group and sessions.

Supporting Research Staff Progression

10.13 Research staff career progression is supported in a number of ways.

DECIPHer led grant applications of £500k or less typically include at least one junior researcher as a co-investigator. Junior researchers are encouraged to obtain smaller grants as lead investigators with mentoring and support, prior to moving onto larger grants. Recent post-doctoral staff typically gain experience on a small number of projects as named staff or investigator, and are supported to apply for personal fellowships, providing opportunities to prepare them for leading their own independent work.

10.14 The centre has a research led teaching lead. The remit of the role is to have strategic and operational oversight of DECIPHer's teaching contribution, manage the centre's internal allocation of teaching, and identify and realise opportunities to develop research staff's careers through teaching. This teaching comprises lectures and seminars and student supervision at graduate and postgraduate levels. PhD students are also encouraged to undertake seminar teaching and support lectures where appropriate.

Hosting Student and Practitioner Placements or Secondments

10.15 DECIPHer host a range of student and practitioner placements and secondments.

- *International placements*- DECIPHer hosts students and academics from HEIs across the world including from the Arizona State University (USA) and Aalborg University (Denmark).
- *Bi-directional placements and secondments*- As well as hosting placements and secondments, DECIPHer encourages researchers and PGR students to undergo placements and secondments external to the organisation.
- *Co-location of researchers*- DECIPHer supports the co-location of researchers across university departments including between DECIPHer and the college of bio-medical and life sciences and the school of medicine. The centre also supports the co-location of researchers and PGR students across external organisations such as Public Health Wales and The Welsh Government.

Fostering Internally Strong Relationship:

10.16 Within DECIPHer there are monthly staff meetings and monthly RIDG meetings which all staff members (academic and professional services) as well

as PGR students are invited to attend. There is a weekly DECIPHer internal news bulletin and a weekly round-up of funding opportunities which is distributed via email to all staff members and PGR students. Staff meetings as well as the internal news bulletin not only provide strategic and operational updates but provide an opportunity for all staff and students to update the team on any academic or personal news. Moreover, there is a DECIPHer social committee which is dedicated to organising and facilitating informal activities and events for staff and students to participate in. These activities and events include staff Christmas parties and DECIPHer leaving do's but have also previously included activities such as: virtual pancake making for pancake day, DECIPHer running club and team entries into corporate running events and DECIPHer book club.

DECIPHer Short Courses

10.17 DECIPHER runs three short courses annually: Developing and Evaluating Complex Public Health Interventions, Process Evaluation of Complex Interventions and Public Involvement Short Course. Methodological guidance which has been developed by DECIPHER has led into the centre providing research capacity development through training to academics, policy and practice stakeholders.

10.18 All three short courses are hosted in Cardiff and the Public Involvement Short Course is financially supported by Health and Care Research Wales. The Public Involvement Short Course has a primarily Welsh audience whereas the 5-day annual Developing and Evaluating Complex Public Health Interventions short course and 1-day Process Evaluation of Complex Interventions short course is international in its attendance. In addition, to the three regular short courses DECIPHER receives requests for bespoke courses from national and international HEI's departments/centres and public service organisations. Historically UK requests for bespoke courses have tend to be come from policy and practitioner stakeholders whereas international requestions have tended to be from those in academia.

DECIPHer Website and Twitter Account

10.19 DECIPHER has a presence online via the DECIPHER website (www.decipher.uk.net) and are active on social media site, Twitter ([@DECIPHERCentre](https://twitter.com/DECIPHERCentre)). The bilingual website provides an overview of the centre, the centres networks, the centres research aims and prior publications, information on DECIPHER short courses and personal bios on DECIPHER academic staff and PGR tutors. The DECIPHER website also publishes regular blogs whereby staff, students and guest bloggers share their reflection on key issues in public health research or their experiences of working at or with DECIPHER. Blog topics include:

- Summaries of training delivered.
- Summaries of research outputs.
- Student or staff experiences of DECIPHer placements or secondments.

DECIPHer blogs can be found here: <https://decipher.uk.net/blog/>.

11. Main findings

11.1 Only two of the six countries that formed case-studies for this review have government-led strategies to support the development of educational research capacity and volume in higher education. Some of the elements in these strategies include:

- Creating an infrastructure to support educational research.
- Developing evidence-informed practice, including making high-quality research available to practitioners.
- Strengthening evidence-informed policy.
- Building research capacity.
- Fostering collaboration.
- Contributing to national and international developments.

11.2 All of the case-study countries provide government/ non-governmental generic support for the development of research capacity and volume in higher education. This support includes the following elements:

- Government funding is aligned to quality assessments of published research.
- Government funding is also used to support knowledge exchange, innovative research and national/international collaborations.
- Non-government funding is available from charity and other organisations.

11.3 Universities in all of the case study countries have strategies for supporting the development of research capacity and volume. This support includes the following elements:

- Encouraging inter-disciplinary research.
- Developing a strong research environment.
- Developing the careers of young researchers.
- Collaboration with the public, private and third sectors.
- Collaboration between researchers and universities.
- Communication of research outcomes.

11.4 In Wales DECIPHer provides an example of how various funding sources have contributed to the development of education research capacity and volume in a specialist area. Some of its key features are:

- Research networks that have been developed with policymakers and practitioners.
- The development of research expertise in targeted areas.
- Developing young and early career researchers.
- Offering professional learning based on their research.
- Communicating research outcomes as widely as possible.

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