Research Skills Training and Capacity Building in The Social Sciences: A Synthesis of the Evidence for Change

A key challenge for the social sciences is ensuring that those entering the disciplines, alongside those already researching within its fields, have access to high-quality training and developmental opportunities to gain, refresh or extend their skills to meet the changing science, data and research landscape. Meeting this challenge is crucial for sustaining the UK social science community's pivotal role in delivering world-leading research that addresses complex social problems. It is also central to innovation, creativity, and developing new research techniques and approaches while also improving capacity and extending our capabilities. To that end, the *Economic and Social Research Council* (ESRC), over the course of several years, has actively engaged with the social science community through commissioned reports, scoping studies, consultations and guidelines to develop an evidence base for driving forward the strategic changes. These changes include the need to deliver a new, long-term research skills training and capacity-building model that fully supports a complete development pipeline for social science researchers, equipping them with the necessary skills and experience to undertake world-class research, from research design through to impact (for a wider consideration of definitions, please refer to Scoping the Skills Needs in the Social Sciences).

Lessons from the Evidence: The Need for Change

Taken together, the various commissioned reports (see Annex I) and community engagement by ESRC, alongside the wider aspirations for the sector (for example see UK Research and Development Roadmap; ESRC Strategic Delivery Plan; Future Data Services; Innovate UK), offer several compelling arguments for change, innovation, leadership and the need to develop new structures to support UK social science skills training and capacity building. While long-standing investments in the UK social sciences have ensured that the current system retains many strengths, and those strengths continue to underpin high-quality research, the evidence has identified serious challenges for the social science research community if it is to both sustain competitive, high-quality research in the future and ensure the social sciences have long term resilience in terms of capacity and capability. So, what are those current challenges for research skills development and capacity building identified in the evidence?

Fragmentation

The current system of research skills training and capacity building is fragmented. While significant investment has been made in research skills development and capacity building for some considerable time, current provision is distributed across multiple institutions and organisations with varying degrees of access and coherence. This presents many specific problems, including potential duplication, access issues, over-concentration of skills in particular localities and so forth. For example, possible opportunities for high-quality research skills training may be 'hidden' within centres of research excellence, research clusters or even within research teams. Likewise, research funded through ESRC grants could lead to new insights and developments highlighting emerging techniques or approaches relevant to the wider research skills development needs. Yet how does the community derive

maximum benefit from these investments and access the potential learning for research skills development? The fragmented system and lack of a central knowledge repository relating to current or future training possibilities make it difficult for the community to identify or access such learning opportunities. A more coherent approach to research skills training and capacity building is required to maximise the return on investments and avoid waste.

Leadership for Research Skills Development

The need for leadership in research skills development and capacity building reflects some of the challenges raised by our current fragmented system. UK social science is replete with internationally regarded expertise in research methods, data analysis, dissemination and research impact that spans the full breadth and depth of research design (For details see https://results2021.ref.ac.uk/). Likewise, the ESRC has a long-established reputation for providing a financial and regularity framework for research excellence across the social sciences (see ESRC Strategic Delivery Plan). Yet, despite the apparent excellence in these areas, there is no unified leadership or oversight for research skills training and capacity building in the social sciences. If UK social science is to maintain its world-class, diverse and inclusive research base, then strategic leadership is needed to outwardly champion continuing research skill development, capacity building and associated innovation to drive excellence and foster future research resilience.

Digital Society and the Future of Data

Significant challenges are posed by the 'digital society' and our evolving relationship with data – such as what data 'is' and how it can be accessed and used. An approach to skills development and capacity building is needed that ensures that the social science community has the requisite skills to engage fully with all the attendant opportunities emerging from 'the future of data'. Social scientists need access to skills development to remain fully cognizant of the changes to the data landscape so they can navigate the new and emerging ways of accessing, managing and linking data, especially administrative data. The social science community also needs support in extending its capabilities to meet the challenges posed by the demand for openness in data research publishing as well as understanding the social imperative of translating policy-relevant research for a wider public in meaningful, reliable, and ethical ways.

Embracing Data-Driven Research and Interdisciplinarity

A new model of UK social science skills development should transcend philosophical debates around ontology and epistemology and the limits those debates place around research skills as being either quantitative *or* qualitative. Instead, skills training and capacity building should embrace the challenges and opportunities of interdisciplinarity, support the development of data-driven research skills (regardless of what the data is) and offer a more flexible approach to deriving analytical value and meaning so avoiding academic silos and cul-de-sacs. The challenge here is to bring together high-quality training that spans the fundamentals of research design through the enhancement of qualitative, quantitative and mixed methods before moving on to computational and digital skills, artificial intelligence and machine learning, coding programming, digital research methods and the visualisation of data.

Learning from Doctoral Training Partnerships

The current approach to skills development and capacity building places significant emphasis and investment at the doctoral career stage. However, there is much to learn from the innovations already in place for the next phase of the Doctoral Training Partnership network. For example, during the next phase of DTP-led doctoral training, the focus will be on individually tailored development pathways based on researcher needs rather than training as a generic or mass participation activity. This is an approach that should be replicated across the social science community. Similarly, UK social science PhD research should be 'challenge-led', data-driven and embrace interdisciplinarity. The emphasis being placed within DTPs on preparing researchers fully for digital methods, digital data collection, big data, data management, and effective dissemination has meaningful implications for skills development beyond the doctoral stage.

Skills Development Across the Lifecourse

Skills development should not be viewed as a one-off occurrence concentrated in the early phases of the career pathway. Instead, the evidence suggests that social science research skills training should be viewed as a 'lifelong learning' process for the UK social science community to remain competitive and continue delivering research to high international standards. The challenge is to ensure skills development and capacity building occur across the life course and that development opportunities are more accessible to mid and later-career researchers, or any researcher wanting to retrain, return to the academy, or acquire new skills. This is not only beneficial to individual researchers but will also ensure our research environments remain vibrant and relevant.

Consolidated Recommendations from the Evidence

Evidence supports a new approach to skills development and capacity building that is cognisant of the following themes:

Priorities
- Offers creativity and adaptation to new areas of data opportunity, challenge and innovation in the 'digital society'.
- Enhances knowledge and skills in the areas of data linkage.
- Includes activities to build an understanding of applying research in practice.
- Enable researchers to push forward methodological innovation and imagination.

Collaboration and coproduction
- Champions skills development that enables researchers to move across traditional discipline-based to avoid methods silos.
- Is collaborative and across disciplines within and beyond the social sciences.
- Is co-developed with industry.

- Supports the co-creation of knowledge that champions engagement and innovation locally, nationally and internationally.
- Encourages engagement with non-social science disciplines as a skills and capacity-building pathway.

Research culture and career development across the life course
- Promote professional development (rather than 'training' alone) throughout the career
- Enables acquiring, consolidating and enhancing qualitative, quantitative and mixed-methods data skills across all career stages.
- Fosters a research culture and environment that promotes and emphasises research skill development
- Establishes opportunities specifically for mid- and later-career researchers, for example, by opening Doctoral Training Partnership (DTP) skills development opportunities for all researchers and practitioners.
- Champions research skills development opportunities that support talent in the social sciences.
- Ensures that skills development and capacity building are accessible, sustainable, and underpinned by equality, diversity, and inclusion principles. Skills development is a key driver for enhancing the breadth and diversity of the UK social science research base.

Co-ordination and strategic leadership
- It is supported by an integrated resource platform for information concerning all research skills development opportunities across all relevant investments.
- Supports strategies for maximum utilisation of existing and future data infrastructure resources and opportunities.
- Supports the cascading of training and development opportunities emerging from research grant funding and infrastructure investments such as Centres for Excellence.
- There is a need for national-level strategic leadership in research skills development.

The Way Forward

Skills development and capacity building are at the heart of the UK social science community. Building on the decisions underpinning the evidence (see, for example, Scoping the Skills Needs in the Social Sciences), research skills and capability are envisioned as an approach that emphasises the breadth of research skills needed to deliver high-quality, impactful research, from research design to impact. An updated research skills and capacity-building ecosystem must be responsive, needs-based, flexible, and equitable. Any new model should provide professional development across an ever-changing research landscape and increasingly complex academic and practitioner career pathways. In doing this, the UK social science community will be able to sustain world-leading, diverse and inclusive social science research that will continue to address multifaceted societal problems in creative and innovative ways.

Annex I: ESRC commissioned reports

ESRC commissioned reports that have informed this evidence synthesis include:

- Scoping the Skills Needs in the Social Sciences
- ESRC Review of the PhD in the Social Sciences
- ESRC Postgraduate Training and Development Guidelines 2022