

Job title	Senior Research Fellow	Job family and level	Research and Teaching Level 5
School/ Department	Education	Location	Jubilee Campus

Purpose of role

The Observatory for Mathematical Education is generating state-of-the-art, evidence-driven, and policy-relevant research to improve mathematical education and learner outcomes in England as well as longer-term benefits for individuals and society. Its remit stretches through primary and secondary education, to undergraduate study and postgraduate research in mathematics, and one of its focuses is on mathematical excellence.

The Observatory's research programme comprises three parts, the first of which is the analysis of secondary datasets (e.g. the National Pupil Database, Higher Education Statistics Agency) and panel surveys (e.g. the Millennium Cohort Study) within a secure Data Lab. The second part is the Observatory's three longitudinal cohort studies comprising national surveys and institutional case studies. The third area of the Observatory's work includes proactive and reactive projects (e.g. evaluations, interventions). The work programme will enable the Observatory team to explore how learner pathways and outcomes in mathematics education are impacted by social background, institutions, locations, policies, interventions, time, curriculum, teaching, parents and peer groups.

This role holder will contribute to all aspects of this work, with a particular focus on the national cohort studies. They will be involved in the analysis and statistical modelling of large data sets, in collaboration with the Observatory team and senior researchers. They will also contribute to the annual design of research instruments for the cohort studies, and might also be involved in case study research, as appropriate. The role holder will support other Observatory projects as required, helping to shape the Observatory's research programme and collaborating on external funding applications.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time
1	Research and data analysis - Identify research questions and plan research projects which are relevant to the Observatory's aims, published literature and national policy discourse. - Generate, analyse and evaluate primary data, supporting survey design, case study research and other projects. - Analyse, interpret and evaluate research findings based on secondary data sources (e.g. NPD, HESA). - Deliver original research of international excellence as part of the Observatory team and contribute to the achievement of the Observatory's research objectives. - Seek and secure research funding in collaboration with other Observatory team members. - Assist in the development of the Observatory's research objectives.	60%

2	Engagement, Communication and Dissemination - Assist in the co-ordination of the Observatory's research and related administrative tasks, including liaising with external project collaborators. - Publish results of research in internationally leading peer-reviewed journals and draft formal project reports for Observatory stakeholders. - Establish your reputation nationally, by writing up research work for publication and contributing to the dissemination of the Observatory's findings at national/international conferences. - Liaise regularly with the Observatory's leaders and other researchers through writing internal reports and participation in regular Observatory-wide research meetings.	30%
3	Administration and Personal Development - Provide support, guidance and supervision to other staff and researchers within the Observatory team, where appropriate in own area of expertise. - Engage with appropriate training and network with other quantitative researchers using official statistics and education data.	10%

Person specification

	Essential	Desirable
Skills	- Ability to advise on and manage a research programme, deploying resources effectively. - Ability to create and apply relevant research techniques, methods and models. - Ability to interpret data and reports to bring new insights. - Ability to attract research funding. - Excellent communication skills, including the ability to clearly communicate complex information in academic writing and presentations, and with external stakeholders. - Excellent organisational, time-management and multi-tasking skills. - The ability to build positive relationships and to work independently and support others as part of a multidisciplinary team.	- Previous success in gaining support for externally funded research projects. - Ability to support early career researchers and develop a research team culture.
Knowledge and experience	- Expert knowledge and practical experience of quantitative research methods and statistical techniques. - Proven track-record in publishing research work of international quality in peer reviewed publications. - Experience of presenting to national or international conferences.	- Knowledge of approaches to dealing with missing data and multi-level modelling. - Experience of developing new research approaches, models, techniques or methods. - Experience of working as part of a research team and supervising colleagues.

	▪ Experience of working with large, complex and sensitive datasets, preferably in secure environments ▪ Knowledge of relevant literatures. ▪ Background knowledge of mathematics education in England and of issues relating to student engagement, progression and participation. ▪ Experience of R (or other appropriate statistical computing software). ▪ Involved with networking, actively engaging with and valuing other areas and diverse groups.	▪ Experience of studying and/or teaching mathematics in England.
Qualifications, certification and training (relevant to role)	▪ PhD or equivalent in mathematics education, quantitative social science or similar. ▪ Have (or be eligible to apply for) ONS approved researcher status.	



Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
Taking ownership	Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
Forward thinking	Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
Professional pride	Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
Always inclusive	Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others

