

# PhD Opportunity

## A Multisensory Mind: Exploring the Learning Experiences of Primary School Children with Synaesthesia

### Supervisory Team

**Director of Studies:** Dr Alexandra Sewell

**Supervisor:** Prof Alison Kington

**Research Group:** [Social Psychology of Education](#)

### The PhD Opportunity

Synaesthesia is a neurological condition in which stimulation of one sensory pathway leads to automatic, involuntary experiences in another sensory pathway. For instance, individuals with synaesthesia, known as 'synaesthetes,' may hear colours, taste sounds, or see letters as distinct colours (Simner, 2019: 2). While often perceived as a curiosity, recent research has started to explore how this unique blending of senses may influence cognitive processes such as memory, perception, and learning. Given that synaesthesia affects approximately 4% of the population, it is significant for education, as understanding its impact could help teachers better support neurodivergent learners. This understanding may unlock both challenges, such as sensory overload, and strengths, such as enhanced memory, in the classroom, making synaesthesia a relevant focus for developing inclusive teaching practices.

This doctoral study builds on previous work by the supervisors (Sewell, Kington & Davies, 2024; Sewell & Kington, forthcoming) to investigate the lived learning experiences of primary school children (aged 9-11yrs) who experience synaesthesia. Despite growing awareness of synaesthesia in neuroscience and psychology, little is known about how it influences educational experiences, particularly in early childhood settings. Using qualitative approaches, the study will seek to understand how synaesthetic perceptions shape children's engagement with learning, their interactions with peers and teachers, and their sense of identity within the classroom.

The successful candidate will be required to consolidate their methodological approach derived from a review of existing literature, along with discussions with supervisors. However, it is proposed that the project will adopt a mixed methods approach utilising a combination of data collection tools (e.g. interviews, observations & questionnaire surveys) with synaesthetic children, parents and educators. Appropriate analytic techniques will be employed to identify patterns in how synaesthesia affects cognitive processing, emotional responses, and social dynamics in learning environments.



The study seeks to contribute to inclusive education by highlighting the unique strengths and challenges faced by synaesthetic learners. It will offer practical recommendations for educators to better support these children through differentiated instruction, sensory-aware pedagogy, and enhanced teacher training. Ultimately, the research aims to foster greater understanding of neurodiversity in primary education and advocate for learning environments that celebrate perceptual differences.

## References

Sewell, A., Kington, A. & Davies, S. (in press) The Impact of Synaesthesia on Inclusive Teaching and Learning: A Systematic Literature Review. *British Journal of Special Education*

Sewell, A., Kington, A. & Davies, S. (2024). *The impact of Synaesthesia on children's school experiences: Mapping the field for use in Initial Teacher Education (ITE) programmes*. Final project report, Worcester: UW.

Simner, J. (2019). *Synaesthesia* (Vol. 608). Oxford University Press, USA.

## Application Process

To begin the application process please go to

<https://www.worc.ac.uk/research/research-degrees/applying-for-a-phd/>

## The Interview

All successful applicants will be offered an interview with the proposed Supervisory Team. You will be contacted by a member of the Doctoral School Team to find a suitable date. Interviews can be conducted in person or over Microsoft Teams.

## Funding your PhD

For information about Doctoral Loans please visit: <https://www.worc.ac.uk/study/fees-and-finance/doctoral-loans.aspx>

During your PhD you can access the Research Conference Support Scheme to support the costs of presenting your research at an external conference.

## Research at the University of Worcester

Research is central to the University's mission to make a difference in everything that we do. We are committed to delivering excellent research which extends the boundaries of human knowledge but which also improves people's lives by enabling better health outcomes, improving food security, developing environmentally sustainable solutions for crop production and socially sustainable solutions to our ageing population, enhancing public knowledge and understanding of the past and present.

The University hence focuses its research around five high-level challenges facing society, locally, nationally and globally:

- [Human Health and Wellbeing](#)
- [Sustainable Futures](#)
- [Digital Innovation](#)
- [Culture, Identity and Social Exclusion](#)
- [Professional Education](#)

The success of our research is reflected in our continuous improvement in external research assessment processes. In the most recent Research Excellence Framework, REF 2021, the University saw a near 50% increase in the scale of its research and 12% increase in quality, building on its performance in REF 2014 when it was the UK's most improved university in terms of Research Power, a combination of scale and quality.

### **Research Degrees at Worcester**

Our research students are central to our overall mission for research. They are working at the cutting edge of their disciplines and driving forward the quality of our research whilst enriching our research culture. We are looking to increase our research student numbers as a strategic imperative.

Our commitment to our students is reflected in the results of the Postgraduate Research Experience Survey 2023 in which we ranked 3<sup>rd</sup> for overall research student satisfaction nationally. Key to our success in this area is the Doctoral School, a focal point for all our research students.

It provides:

- day-to-day support for our students, both administrative and practical, through our dedicated team.
- a Research Student Study Space with both PCs and laptop docking station.
- a comprehensive Researcher Development Programme for students and their supervisors.
- a programme of student-led conferences and seminars.

### **Research Group**

The [Social Psychology of Education Research Group](#) draws on social psychology, as well as work in sociology and education, in order to better understand how people behave and interact. This provides a framework by which we can explore how teachers, practitioners and students identify and inter-relate within educational contexts. In turn, our research, which is cross-disciplinary in its theoretical and methodological approaches, presents crucial insights into the dynamics within schools and classrooms, and how these aspects of classroom life impact on the effectiveness and retention of practitioners, and the quality of children's school experiences. The Research Group was formed to share research and good practice amongst a wide range of academics, and we have partners in a number of professional fields and third sector organisations as well as in local government.

### **Widening Participation**

As part of its mission statement the University is committed to widening participation for its higher degrees. Although most candidates will have an undergraduate and/or a Masters degree, the University is happy to accept applications from candidates with relevant professional qualifications and work-related experience.

**For further information or an informal discussion on this project, please contact: Dr Alexandra Sewell [a.sewell@worc.ac.uk](mailto:a.sewell@worc.ac.uk)**

