Bethany (Beth) Woollacott

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About me

I am currently a postdoctoral research associate for the Centre for Early Mathematics Learning in the Department of Mathematics Education, Loughborough University. I am a mixed methods researcher with a philosophy embedded in methodological pragmatism.

Research Interests

My main research interests are the educational research practice gap, mathematics textbooks, and mathematical reading.

The Educational Research-Practice Gap

My postdoctoral role predominantly involves investigating how we can improve the effectiveness of communication between researchers and practitioners, working with a team of researchers from Loughborough University, UCL, and the University of Bristol.

Some of our projects include: (1) framing the research-practice journey, collating research and posing questions to support researchers with creating impact (Howard-Jones, Woollacott & Gilmore, 2024), (2) creating a programme of research exploring the efficacy of summaries of educational research (e.g., Woollacott, 2025), and (3) investigating the barriers that educators face when engaging with research (Woollacott, Guy & Lortie-Forgues, under review).

Mathematics Textbooks

Mathematics textbooks were the topic of my PhD thesis after winning an ESRC-funded collaborative studentship with Oxford University Press. I investigated the under-researched area of students' and authors' perceptions of college-level mathematics textbooks in England, using questionnaires, semi-structured interviews and reflexive thematic analysis. I then focussed on mathematical textbook design, using eye-tracking technology and comparative judgement.

For more detail, you can find my thesis here or in Woollacott, Alcock & Inglis (2023) and Woollacott, Inglis, Alcock (under review).

Mathematical Reading

I became interested in mathematical reading during my doctoral research investigating mathematics textbooks. I interviewed and surveyed English college-level students, finding that their self-reported use of their textbook exposition was much higher than anticipated from the existing literature (Wang, 2024, Pepin & Haggarty, 2001). Delving deeper, I found a wealth of research discussing the complexity of reading mathematical texts, and the expectation that students would struggle with mathematical reading.

This led to a programme of research using eye-tracking technology to investigate the cognitive reading processes in mathematics (e.g., Woollacott & Strohmaier, 2025). I also regularly give invited practitioner-facing workshops discussing the importance of mathematical reading (see here) and I am currently investigating mathematical oracy in a related research project.

Publications

Woollacott,B., Alcock, L., & Inglis, M. (under review). Student textbook-use and authoring expectations in an English context.

Woollacott, B., Guy, N., & Lortie-Forgues, H. (under review). Barriers to Interacting with Research for Early Years and Primary Educators

Francome, T., **Woollacott, B.**, Foster, C., Strauss, J., Chen, O., Shore, C., & Jones, I. (under review). Research in mathematics education: The questions teachers ask, and the questions researchers answer.

Simms, S., **Woollacott, B.**, Lortie-Forgues, H., Inglis, M., Foster, C. (under review). How should we communicate research findings to teachers? No difference in teachers' intentions to use evidence across 512 versions of a research summary.

Lewis, M., Wortha, F., Lortie-Forgues, H., **Woollacott, B.**, & Foster, C. (under review). A bidimensional model of mathematics educator beliefs

Woollacott, B. (2025). Effective research communication in education: Early years practitioners' views of research summaries. *Review of Education, 13*(1). https://doi.org/10.1002/rev3.70032

Howard-Jones, P., **Woollacott, B.**, & Gilmore, C. (2024). The journey from educational research to classroom practice. *Journal of Education for Teaching, 51*(1), 173–187. https://doi.org/10.1080/02607476.2024.2432942

Foster, C., **Woollacott, B.**, Francome, T., Shore, C., Peters, C., & Morley, H. (2024). Challenges in applying principles from cognitive science to the design of a school mathematics curriculum. *The Curriculum Journal, 35*(1), 489–513. https://doi.org/10.1002/curj.249

Woollacott, B., Alcock, L., & Inglis, M. (2024). The spatial contiguity principle in mathematics textbooks. *Research in Mathematics Education, 26*(3), 386–406. https://doi.org/10.1080/14794802.2022.2158122

Academic presentations

Invited talks

Woollacott, B. Using CJ to Investigate Textbook Design. Comparative Judgement Consortium Day Meeting, University of Birmingham (UK), January 2025.

Woollacott, B. Insights into Mathematics Reading via Mathematics Textbooks. Technology-Enhanced Mathematical Sciences Education (TEMSE) seminar series, University of Edinburgh (UK), March 2025.

Woollacott, B. Barriers to interacting with research for Early Years and Primary Educators. Teacher Education and Educational Studies Research Cluster (TERIC) seminar series, University of Derby (UK), April 2025.

Grants and Awards

Reading to Learn Mathematics. (under review). *Swedish Research Council Research Grants Open Call 2025.*

Emotions during reading of mathematical texts: A detailed multi-method process analysis. (2023). *British Academy Small Grant from the Centre for Mathematical Cognition, Loughborough University.*

Learning post-compulsory mathematics by reading. (2017). *Economic and Social Research Council Doctoral Training Partnership 3+1 Collaborative Studentship Award*