Symposium IMBES 2024

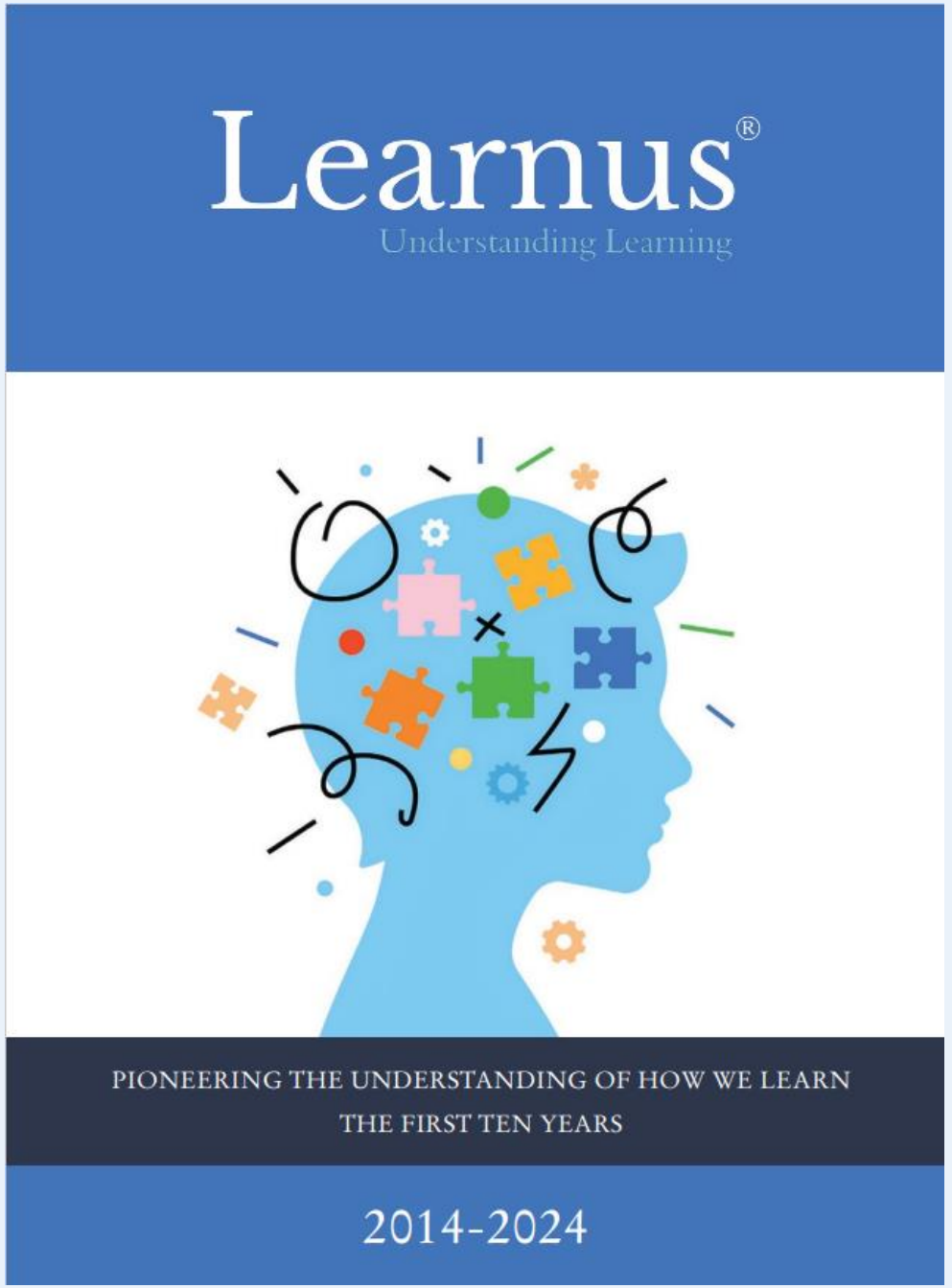
Bridging research and practice across the globe: from informing research to informing practice

Supporting collaboration and translation between educators and researchers

Kendra McMahon

for Learnus, UK

www.learnus.co.uk



Overview

- Learnus – a platform for collaboration and translation

- Examples of collaborations Learnus has supported
  - UnLocke Project
  - Pre-service Science of Learning Teacher Education projects
  - Rich Retrieval
  - The Big Project

Learnus' Mission

Dialogue between researchers working in educational neuroscience, education practitioners and policymakers.

Emphasising how we learn

Bridge between classroom practice and academic research into the brain

- Website www.learnus.co.uk
- Programme of activities - Webinars, Conferences, 'Roving reporter' - research labs and schools
- Fundraising
- Engaging with people of influence – policymakers, champions
- Providing key messages for teachers and other educational professionals
- Initiating new innovative projects and activities.

Different perspectives

Teachers understand the broader picture of how learning happens in the social context, but less so the fine-grained cognitive mechanics.

Cognitive scientists understand the fine-grained mechanics, but less so the broader picture.

What can we do to integrate these different perspectives on learning?

Slocombe and Bell (2020) Learnus Blog

Challenges

Education is a complex business, with multiple aims (Biesta 2007)

Empirical generalizations usually apply to one aspect of a complex situation, but educators must consider all aspects of the situation (Willingham, 2019)

Concerns about teachers being positioned as recipients of the expert knowledge of scientists/researchers (Biesta 2007, Hordern 2019)

UnLocke
Learning counterintuitive concepts

The UnLocke Project:
Stop and Think: learning activity and project design

Project lead - Denis Mareschal

Professor of Psychology and Director of the Centre for Brain and Cognitive Development at Birkbeck University of London.

http://www.unlocke.org/

Birkbeck UNIVERSITY OF LONDON

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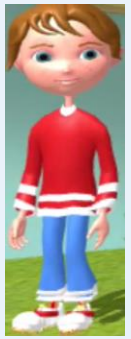
UCL Institute of Education

Learnus™

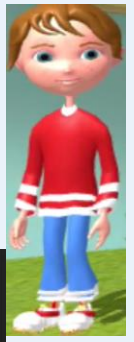
UnLocke Project



- Developed and tested software that aimed to improve pupils' ability to "inhibit" irrelevant prior knowledge when learning new concepts
- Drew on work which suggests that:
  - activating brain networks involved in inhibiting engrained beliefs is required for counterintuitive (logical) thinking
  - inhibition needs to happen in the networks that are specific to the skills being developed so exercises need to be related to specific subject knowledge.

UnLocke
Learning counterintuitive concepts

UnLocke Project: Stop and Think activity



UnLocke
Learning counterintuitive concepts

UnLocke Project collaboration

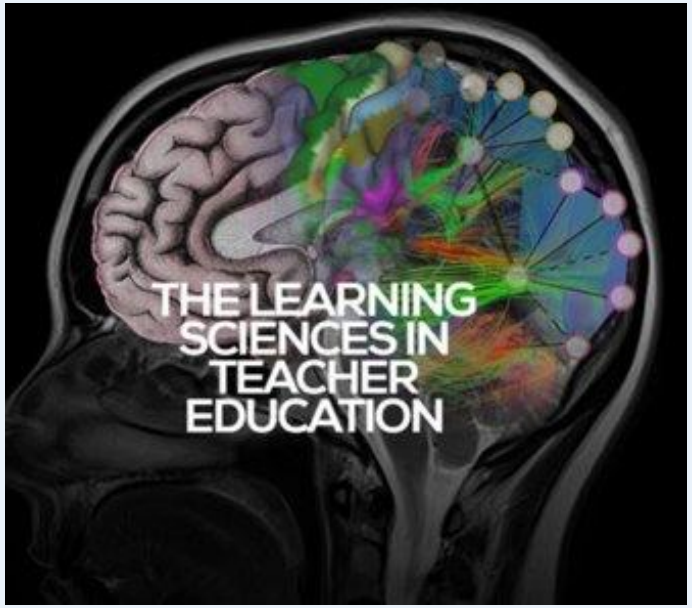
- ‘Wait time’ - familiar existing education research
- Neuroscience - mechanism of cognitive inhibition
- Science education research - 'misconceptions' as targets for the design
- Teachers - making it manageable in the classroom, raised challenges

Impact is promising, led to further RCT - Report coming soon!

Pre-service Teacher Education projects

scienceoflearning-ebc.org

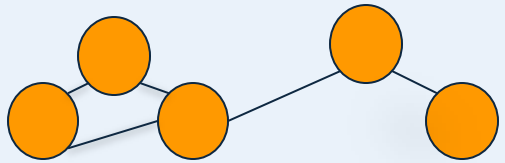
Prof Paul Howard-Jones & colleagues University of Bristol



www.bathspa.ac.uk/projects/learning-sciences-in-teacher-education/

Kendra McMahon, Pete Etchells & colleagues Bath Spa University

Rich Retrieval in primary science



- Addresses educational concerns about narrow application of ‘retrieval practice’.
- Translating cognitive science of retrieval
- Designing teaching and learning resources for primary science that provoke retrieval and elaboration through talk
- Design-Based Research – teachers, education researchers, teacher educators
- Learnus webinar

Grab me, email me or see poster session for more!
k.mcmahon@bathspa.ac.uk

Building **I**mpact **G**roups: The **BIG Project**

proposes a structured way of bringing teachers and educational neuroscientists together to generate a programme of research and translation **with shared ownership.**

- What would help most from a teacher perspective?
- What kinds of 'answers' would be helpful?
- How the outcomes can be translated to improve teaching and learning in practice.
- Recognizes complexity of the challenge
- Fundraising

Learnus®
Understanding Learning

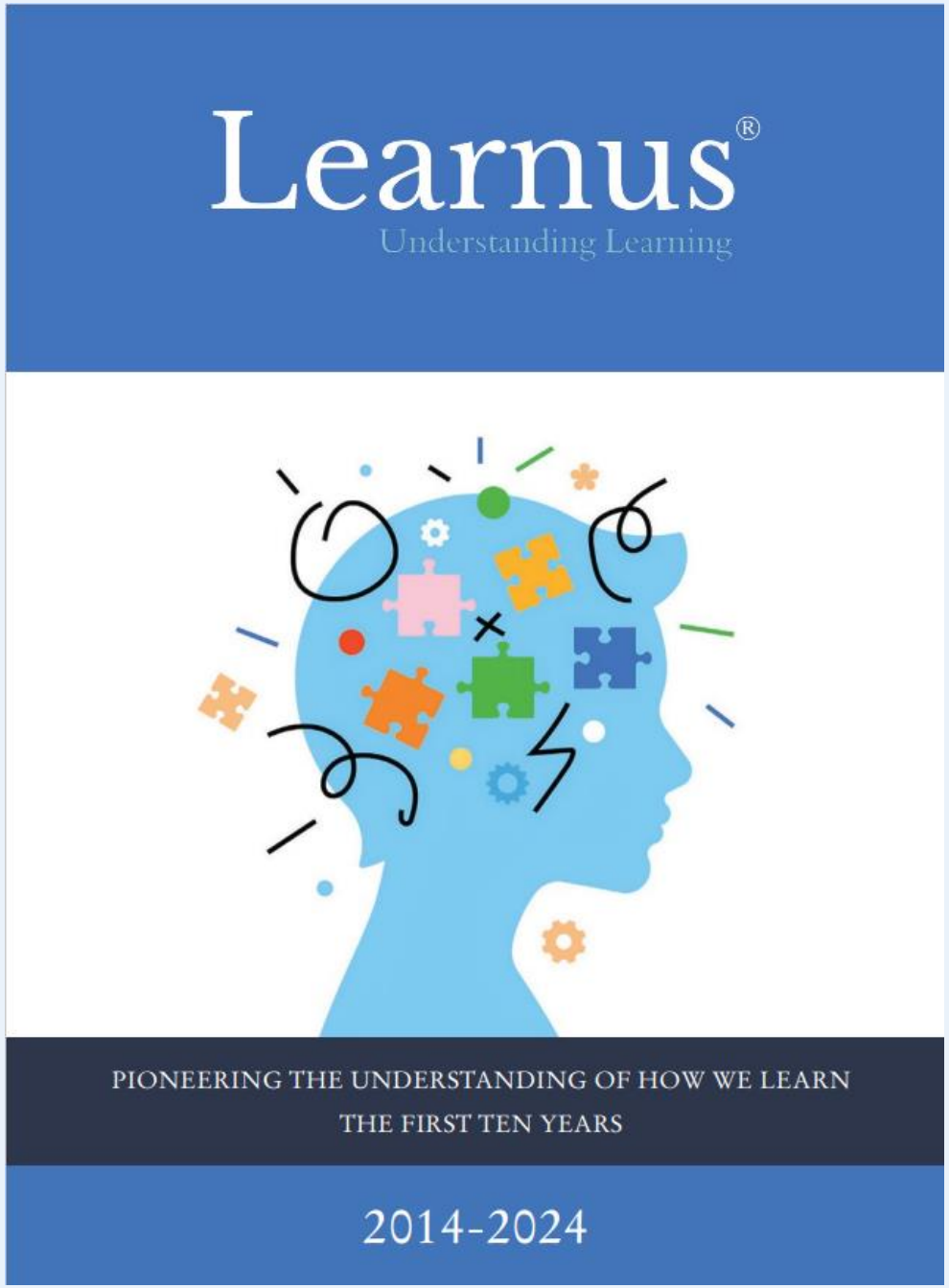
Summary

Making sure different perspectives are represented – teachers, researchers, policymakers

Understanding and adjusting practice

Aiming for a relationship that recognizes and values the different kinds of knowledge

Learnus is providing a consistent platform for this collaboration.



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Possible Qs

- How can we set up projects in a way that enables teachers to share their expertise?
- What could scientists do, and avoid doing, to support collaboration?
- How much scientific knowledge do teachers need in order to be able to participate?