

**Continued
Professional
Development
Workshops**



Jonathan Firth



ABOUT THE WORKSHOPS

This series of workshops has been designed to meet the need for continuous professional development that is based on current research evidence, particularly evidence from cognitive psychology about how people think and learn.

ABOUT THE PRESENTER

Jonathan Firth has taught Psychology for sixteen years at Hutchesons' Grammar School, Glasgow, and has recently taken on a teacher training role at the University of Strathclyde, in addition to his research into the applications of memory to education. He has authored/co-authored several school Psychology textbooks, and his forthcoming book 'Psychology in the Classroom' (Routledge, autumn 2017) looks at integrating psychological concepts into teaching.

GENERAL OUTLINE OF SESSIONS

- The sessions begin with an introductory talk explaining key theoretical issues of evidence-based teaching, followed by a worked example of how these can be put into practice.
- There will then be a practical skills workshop where teachers review and modify several short teaching activities or lesson ideas.
- The workshop thereafter moves onto a longer and more focused development of a specific key concept from the research. Teachers will look at how this can be implemented into their professional practice (in a way that can be adapted to any subject discipline).
- Follow-up tasks will tackle any problems encountered and highlight further research-based considerations and future steps that could be taken independently.
- Finally, there will be a plenary where teachers have the chance to ask questions on how to tackle specific issues from their practice, ask about the research evidence, or consider practical issues.

Workshop 1 Working memory, cognitive load and attention



Whether learners are working at home or in class, they are using their mind's ability to process and combine information and to connect it to past experiences. Prevailing assumptions about intelligence and the traditional view of 'short-term memory' tend to be limited or simply inaccurate. Modern psychological science has outlined a complex set of systems, collectively referred to as 'working memory'. An understanding of its limits can help teachers to avoid situations where learners struggle, fail, or get distracted. This workshop will explain key working memory concepts to teachers and show them how to make simple but effective changes to their teaching practices. Examples are drawn from many different subjects and will be relevant to all subject disciplines.

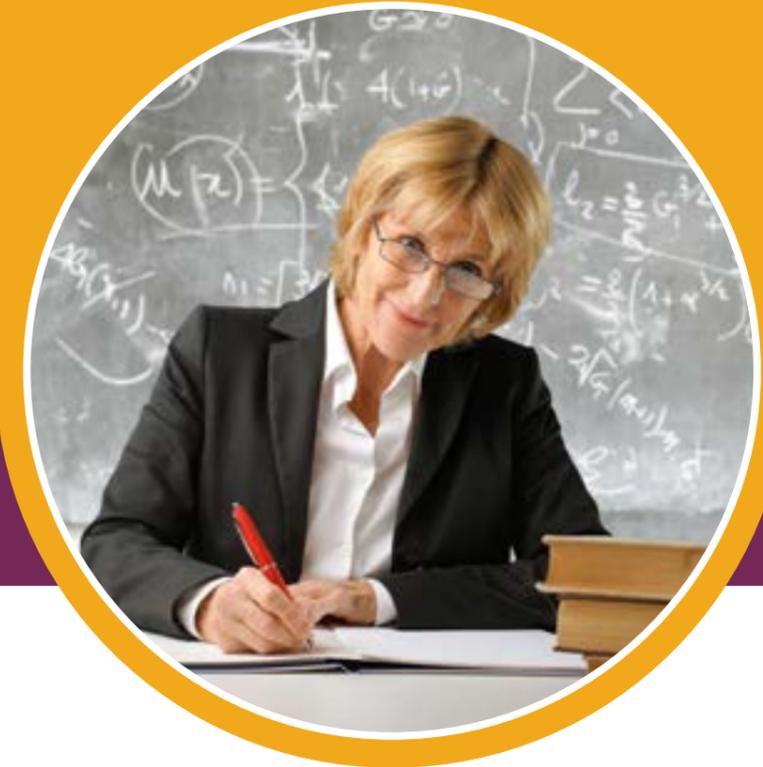
After an engaging and interactive explanation of theoretical concepts, teachers will work on lesson stimuli and activities from their own professional practice, making modifications where appropriate to take into account the

scientific evidence on working memory.

This workshop will also explain how attention is more than just a matter of behaviour, but essential for any non-automatic processing, and how automatic processing can be developed through learning and the deliberate application of skills and retrieval of information. Teachers will be shown how to draw on the concepts of attention and automatic processing in their longer-term planning, too; activities will include evaluating and modifying lesson and course plans to allow for changes in processing abilities over time. Clear steps will be provided, showing teachers how to plan opportunities in a way that promotes and accounts for cognitive changes.

During the session, specific research evidence will be summarised and further references provided to help teachers to build a foundation of scientific knowledge for their future practice, including recent findings from neuroscience.

Workshop 2 Teaching & long-term memory



Remembering facts, concepts and skills over the long term is essential to any aspect of education, and yet many teachers do not fully understand how human memory works. In this workshop, decades of research in cognitive psychology will be succinctly condensed into an overview that gets right to the heart of what teachers should understand about long-term memory. It will explain the role of meaningful associations and schema knowledge, the benefits of spaced retrieval practice to tackle forgetting, and the role of interleaving or mixing of concepts and skills.

The workshop will then show teachers how they can apply research to their classroom practice. Focusing on the role of challenge and 'desirable difficulties' in learning, teachers will be introduced to a range of ways in which activities could prompt active retrieval, develop broad schema knowledge, and make progress more visible to both learner and teacher. This work will suggest specific changes - some minor, some more

radical - to existing lesson plans, such as by incorporating more active retrieval practice and greater intermixing of key skills and knowledge.

The workshop will also explain how a teacher or department can structure courses over the longer term, drawing on key research insights. As long-term retention of learning improves when practice is spaced to the optimum, this part of the workshop is not only practical in terms of learner attainment but has the potential to make the teacher's work more time-efficient.

This session will also highlight contemporary evolutionary and biological perspectives on the nature of human memory, including how and why the brain encodes new information and how this is affected by relevance and motivation. Specific research evidence will be summarised in an accessible way, and teachers will have the opportunity to discuss and find out more about specific sets of findings or concepts.

Workshop 3 How can teachers engage with research?



There are many benefits to teachers becoming more involved in research, either in terms of learning about and using evidence-based teaching practices, or carrying out their own autonomous research project(s). Such projects can help boost professional knowledge and also give a sense of ownership and of progress, rather than the annual repetition that can be a feature of school teaching.

During this workshop, the key skills of the teacher-researcher are explained, from identifying confounding variables to making choices of methodology and statistical tests. Research is presented as a means of re-professionalising the teacher by making him/her a more discerning consumer of educational research. Key obstacles to teacher research are also discussed, most notably time: it is of course acknowledged that most school teachers have heavy workloads. One way around the problem of time constraints is to conceptualise teacher research engagement as a form of CPD. As such, it benefits from many of the characteristics which have been found to be good for learning as a whole, including a

focus on areas of interest and curiosity, spacing learning out over time. This prompts frequent active retrieval of knowledge and skills, as well as creative transfer information to new contexts.

Next, focusing on a selection of robust findings from cognitive psychology that can be applied to any teaching subject, teachers will develop their own research tasks in a workshop format. These tasks will work well simply as a teaching and learning activity, and also raise awareness of evidence-based approaches to learning - or they could constitute the beginning of a more lasting engagement with research, and the foundation of a more in-depth research project.

In the final part of the session, issues with research ethics will be considered, as well as practical issues of organisation, networking and peer support. During this plenary, teachers will have an opportunity to ask more about the practicalities of integrating research tasks into the classroom and about the impact it can have on a teacher's career.



**To book a workshop, please
contact jwfirth@gmail.com
or phone 07968 223757.**

I will be happy to discuss your exact
requirements in terms of dates
and timings.