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Editorial

Working Memory in Children with Speech, Language and Communication Needs

Vicky Joffe and I are delighted to present a special issue section as part of this edition of *Child Language Teaching and Therapy*, focusing on the working memory abilities of children with speech, language and communication needs (SLCN). Working memory has been implicated in children's language learning and language impairments for considerable years. Indeed, many professionals in the field include working memory as part of their assessments and intervention in their professional practice; and parents frequently include memory as a concern when talking about their children's language difficulties. This special issue provides a timely and important update in the field of working memory and its implications for children with language impairments.

Lisa Archibald starts the special issue with a comprehensive review of the relationship between working memory and language learning. How working memory supports language learning and is then implicated in children's language impairment is discussed. Working memory is a complex cognitive process and emerging research is starting to show that some children with language learning impairments do not have working memory deficits. The implications of this for our understanding and management of children's language impairments are important, and highlighted in this paper.

Lucy Henry and Nicola Botting move the special issue on to reviewing and discussing the evidence for children with developmental language impairments having domain-general central executive working memory deficits as well as working memory deficits more specific to language processing such as verbal short term memory. Importantly, the paper reviews how professionals can support children to compensate for their working memory deficits to enable them to learn as well as the more specific intervention training programmes aimed to develop children's working memory. What is most welcome about these recommendations is their potential suitability to be conducted across a range of contexts including the classroom, small group setting or a one to one therapy session.

Rebecca Waring and colleagues move the special issue away from language learning and language impairments to consider children with speech difficulties, specifically phonological speech sound disorders and if and how phonological short term and phonological working memory deficits are involved in these speech difficulties. Interestingly, their study identified that children with these speech difficulties do have immediate memory deficits and that these potentially contribute to their speech difficulties although establishing a causal relationship is not possible. Importantly, intervention for children with phonological speech difficulties should start to take working memory deficits into consideration, not something that is routinely included in current clinical practice with children with speech impairments.

Finally, Vugs and colleagues report on the effectiveness of an intensive executive functioning training programme for children with specific language impairment (SLI). The programme included training in visuo-spatial working memory, inhibition and cognitive flexibility. Significant improvements were identified and show that children with SLI can make gains in these cognitive abilities. This finding has exciting and important implications, not only for improving executive function, but also for giving further insight into the nature of executive function.

Working memory is implicated in children with speech, language and communication needs, and therefore has an important role in how teaching and intervention is designed for and delivered to these children, as well as how to enable these children to manage the demands of the classroom. Working memory deficits are not solely confined to language or linguistic aspects of working memory but also include more general working memory abilities. Language learning is a complex task and this is reflected in how all aspects of working memory, whether linguistic or other, are involved.

As you read the special issue, you may notice the different terminologies used to describe children with language impairments ranging from speech, language and communication needs to language impairment to developmental language impairment to specific language impairment.

This issue of terminology is currently of much debate (Bishop et al., 2016; National Association of Professionals Concerned with Language Impairment (NAPLIC)) and it is a very important debate for all professionals involved with children and young people with this often un-recognised and un-supported need. Developmental language disorder is the proposed term to use as a replacement for specific language impairment, with the term, speech, language and communication needs continuing to be used as an encompassing term to include children with all types of language impairment whether primary or secondary. We encourage all our readers to engage in this debate to ensure a strong consensus is reached. Going forward in this publication, we will continue to accept papers using different terminologies, as long as the terms are recognisable and used more widely in the literature, are clearly explained and that the participants are described fully.

Child Language Teaching and Therapy is formally associated with NAPLIC. Please note the next NAPLIC conference 'The impact of language on behaviour, mental health and wellbeing of children and young people' on May 8th 2017 in Birmingham, UK. For further information about NAPLIC, the NAPLIC conference and the terminology debate, please see the following links:

NAPLIC website: <http://www.naplic.org.uk/>

NAPLIC Twitter: <https://twitter.com/naplic>

Editors

Judy Clegg and Vicky Joffe

Reference

Bishop, D.V.M., Snowling, M.J., Thompson, P.A., & Greenhalgh, T. and the CATALISE Consortium (2016). CATALISE: A multi-national and multidisciplinary Delphi consensus study. Identifying language impairments in children. PLOS ONE, 11, Open Access