

Feedback processing in children with developmental language disorder (DLD) – a comparison between declarative and non-declarative learning

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Evidence suggests that children with developmental language disorder (DLD) are not as efficient as their peers in processing performance feedback. However, feedback may place different processing demands on learners in different learning paradigms and it is still to be determined whether the inefficient feedback processing in DLD depends on the paradigm within which it is presented. This study aims to examine feedback processing in children with DLD within the context of declarative and non-declarative tasks. While feedback in a declarative learning task is deterministic and informative on a trial-by-trial basis, feedback in a non-declarative task requires the learner to accumulate probabilistic information over time. Event-related potentials and oscillatory data were evaluated in relation to the presentation of performance feedback when twenty-nine children (14 DLD, 15 children with typical development, or TD; Age: 8:12 years) performed two learning tasks (declarative and non-declarative). The feedback-related negativity (FRN) and the P3a in the time-domain and delta and the midfrontal theta oscillatory activity in the time-frequency domain were examined. Preliminary results revealed differences between the groups (DLD, TD) within and between the tasks.