**TEXT MINING: a Method for Investigating Interactive Alignment of Cognitive States in Natural Occurring Conversations – a Case Study of Shared Reading Groups**

**David Esben Leer Bysted,** *Aarhus University***, Jonas Fenger,** *Aarhus University,* **Geoff Grevers,** *University of Leeds***, Li Zehui,** *The University of Nottingham Ningbo China* **& Julie Mørch Zederkof,** *Aarhus University*

**ABSTRACT**

The following is an exploratory study of *interactive alignment* of cognitive states in individuals participating in literature discussions in reading group sessions. Interactive alignment has been a hot topic of research the last decades but has only been studied in experimental settings of *cooperative problem solving games* – not innatural occurring conversations. By applying *sentiment analysis* and measures of the alignment of cognitive lexicon on a corpus of transcribed reading group conversations, we investigate the usage of *text mining* as a tool for exploring well-established research results in language use in its *natural ecological setting* – everyday conversation.

The investigation of interactive alignment in reading groups is interesting since the core goal of communication in reading groups is *open-ended discussions* of literature – not a common goal of *task completion*.

Furthermore *reading experiences* in shared reading groups have been proven to enhance *theory of mind*, which is a core ability to understand other’s mental states and thereby maintain individual social well-being. A lack of theory of mind is often detected in individuals with criminal backgrounds or mental illnesses, which are the members of the particular reading group of this study. Text mining thereby becomes a tool for evaluating alignment of cognitive states in reading group sessions and a measurement of a possible increase in the theory of mind in individuals with such impairments.

Finally, general outcomes of text mining are efficiency improvement of classic research methods in the Humanities and Social Sciences.