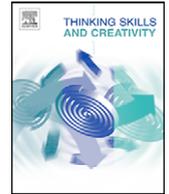




Contents lists available at ScienceDirect

Thinking Skills and Creativity

journal homepage: <http://www.elsevier.com/locate/tsc>

Socially mediated metacognition and learning to write

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ARTICLE INFO

Article history:
Available online 24 September 2009

Keywords:
Metacognition
Social metacognition
Young children
Writing
Collaboration

ABSTRACT

Writing can be viewed as a recursive process involving both cognitive and metacognitive processes. Task, environment, individual cognition and affective processes all impact on producing written text. Recent research on the development of metacognition in young children has highlighted social constructivist and socio-cultural factors. Metacognition is seen as facilitated through collaborative tasks and through talk. This study investigated the peer construction of metacognition in 5–7-year-old children engaged on collaborative writing tasks. Six year 1 and year 2 classes were involved in the project ($n = 172$). 25 h of video observation data, teacher and researcher reflections and structured field notes were analysed qualitatively using ATLAS ti software. The written texts produced in these sessions were analysed using a qualitative content analysis, looking specifically for evidence of the process of text construction and metacognition. The findings provide evidence of young children's ability to engage in metacognitive talk and to use metacognition intentionally in the co-construction of written texts. The relationships between children and their talk partners mediated the effect of pre-determined ability in literacy. Teachers' direct questioning aimed at reflection on the writing process did not always support metacognitive dialogues. Drawing on recent models of metacognition and writing the paper highlights the role of social factors in developing metacognition and illustrates the ways in which young children negotiate task demands during shared writing tasks.

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1. Introduction

The importance of metacognition for learning in most school curriculum areas is now recognised. Empirical studies have provided evidence of the role of metacognition in learning mathematics (Carr & Biddlecomb, 1998; Desoete, Roeyers, & Buysse, 2001; Hurme, Palonen, & Järvelä, 2006; Mevarech & Fridkin, 2006; Panaoura & Philippou, 2007); in science (Georghiades, 2000, 2004; Hennessey, 1999; Larkin, 2006; Rickey & Stacy, 2000; Thomas, 2003); and in literacy (Perry, Nordby, & VandeKamp, 2003; Williams, 2000; Yarrow & Topping, 2001). These few examples give only a brief snapshot of the vast amount of work in each of these fields.

Some of the earliest studies of metacognition were carried out in the area of literacy, particularly in reading (Baker & Brown, 1984; Forrest-Pressley & Waller, 1984; Garner, 1988; Myers & Paris, 1978; Palinscar & Brown, 1984), although fewer early studies focussed on metacognition and writing (Griffith & Ruan, 2005). Whilst early models of writing acknowledged the role of a cognitive monitor to oversee the processes of planning, translating and reviewing (Hayes & Flower, 1980), it might be argued that it is later models (Bereiter & Scardamalia, 1987; Kellogg, 1994), which have highlighted the metacognitive elements of writing and led to more research in this area. Later models have also placed less emphasis on describing the features of text and turned their attention to the processes of writing, particularly in the acknowledgement of the funda-

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mental nature of writing as a socially, historically and culturally situated activity (Nystrand, 1989). In the classroom this has been actualised in the move towards collaborative and group work in classroom writing tasks (Topping, Nixon, Sutherland, & Yarrow, 2000; Yarrow & Topping, 2001) and in the investigation of the self-regulatory features of young writers (Perry, 1998).

We might compare this move in the field of writing to a similar development in the field of metacognition research. Early models of metacognition which emerged from developmental and cognitive psychological traditions (Brown, 1987; Flavell, 1979; Kluwe, 1987) focussed largely on either identifying elements of metacognition or on the ways in which individuals self-regulate and monitor cognition, rather than on how metacognition might be socially constructed or mediated. Whilst the cognitive and information processing models of metacognition may have dominated the field, parallel work on theory of mind research (Chandler and Helm, 1984; Wellman, 1985; Wertsch, 1978); and self-regulated learning (Perry, 1998; Pintrich, 1995; Post, Boyer, & Brett, 2006; Zimmerman & Reisenberg, 1997) have always acknowledged the role of social interactions as mediators of perspective taking and highlighted the role of social relationships in facilitating the development of higher order thinking. This work paved the way for classroom based studies of how children develop metacognition through interacting in collaborative learning situations.

Most often studies of children's metacognition in educational settings and metacognition in the context of writing have focussed on children of 7 years upwards. However, there have been studies of younger children displaying metacognitive awareness and these are growing in number providing a base of evidence of the types of metacognition young children can demonstrate (Hockaday, 1984; Jacobs, 2004; Larkin, 2006; Pappas, Ginsburg, & Jiang, 2003; Pramling, 1988; Whitebread, Bingham, Grau, Pasternak, & Sangster, 2007). As yet, few studies have concentrated on metacognition and learning to write in the early years of elementary education, with one or two notable exceptions (Jones, 2003; Perry et al., 2003).

This paper seeks to add to knowledge of how metacognition is socially constructed and socially mediated by young children learning to write. The study presented reports the qualitative analysis of observational data and reflections gathered during a 2-year project *Talk to Text: Using Talk to Support Writing*, funded by the Esmée Fairbairn Foundation. Based on a social constructivist view of learning, the project sought to explore the relationship between classroom talk and writing in the early stages of children's schooling. Whilst research into children's talk in the classroom has provided evidence of the role of talk in learning (Fisher & Larkin, 2008; Garrod & Clark, 1993; Meloth & Deering, 1994; Mercer, Wegerif, & Dawes, 1999; Myhill, Jones, & Hopper, 2005), little empirical research has been undertaken to explore how talk influences writing. The three principal strands of *Talk to Text* addressed three areas reflecting both cognitive and social perspectives on learning.

- Process talk to support idea generation and communicative intent.
- Presentational talk to support text generation and linguistic choices.
- Reflective talk to develop metacognitive knowledge and communicative awareness.

This paper focusses on the third of these: Reflective talk to develop metacognition.

2. Metacognition

Flavell (1976) described metacognition as “knowledge concerning one's own cognitive processes and products or anything related to them” (p. 232). Since then metacognitive knowledge has been further defined into three distinct types: declarative, procedural and conditional (Schraw, 1998). Declarative knowledge refers to knowing “about” things. Procedural knowledge refers to knowing “how” to do things. Conditional knowledge refers to knowing the “why” and “when” aspects of cognition’ (p. 114).

Brown (1987) also referred to the distinction between declarative metacognition and procedural metacognition suggesting that declarative metacognition refers to what can be stated about cognitive processes whilst procedural metacognition is put to use to regulate cognitive processes. The regulatory processes include planning prior to undertaking an activity, monitoring during the activity and evaluation both of progress and outcome. Brown suggests that self-regulatory processes may operate at a level of conscious awareness or below the level of consciousness. Whether both can be considered metacognitive is still a disputed area in the field, with some suggesting a middle ground of conscious or available to consciousness (Baker, 1994). The features of self-appraisal (akin to declarative metacognition) and self-management (akin to regulation and control of cognition) were identified in later models (Paris & Winograd, 1990). Further definitions of monitoring and control by Nelson and Narens (1992), suggested a hierarchical cognitive model in which the meta-level holds a “dynamic model” (p. 117) of the secondary object level. In this model control is exerted by the meta-level to enact change at the object level and monitoring is the process by which the meta-level is informed about the object level so that the representation of the object level held by the meta-level is updated.

There is now consensus amongst researchers that metacognition consists of both metacognitive knowledge and the processes of regulation and control of cognition. This is the definition which will be used for this study. The problem of the degree of consciousness required for metacognition is a difficult one as monitoring and error correction may be non-verbal. For the purposes of this study, which is focussed on social interaction, a pragmatic view suggests that a concentration on the conscious elements of metacognition is most appropriate.

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