Theory of mind and metacognition in younger children

Consider the following example (Coombs, 1994, n.p.):

> A researcher says to a 5 year old child, 'I'm going to ask you a question but I don't want you to say the answer out loud. Keep it a secret. Most people in the world have toothbrushes in their houses. They keep their toothbrushes in a special room. Now, don't say it out loud – which room in your house has your toothbrush in it?' When this part of the experiment was completed the child was moved to another chair and asked, 'Just a moment ago when you were in the other chair, was your mind doing anything? Were you thinking about anything or having any thoughts?' Some children responded, 'No.' Those children who said 'Yes' were asked what they had been thinking about. They reported that they had been thinking about objects in front of them that were visible at the time. None reported anything having to do with toothbrushes.

Fang and Cox (1999) found evidence of metacognitive awareness among preschoolers (aged four to five). The children were asked to dictate their favourite story to an adult for the purposes of sharing it with another child. Box 5.10 contains an excerpt from the dictated stories of two children, Mark and Lola. Examples of statements illustrating children's metacognition include awareness of their own planning and cognitive processes: "Now what do I do? I keep on forgetting …"; monitoring of the dictating process: "Did I already say that? What are you writing?"; and awareness of the needs of their reader: "No, don't write that down."

Schwanenflugel and colleagues (1994) also found that children as young as eight were aware of their mental processes, but they argue that even though younger children are capable of metacognitive awareness, they often do not put this into practice. One reason for this may be that deployment of metacognitive strategies is too demanding given young children's limited attentional resources (Schneider & Bjorklund, 1998). Hennessey (1993) found that in her study of Year 1 to 6 science students, older students in Years 4 to 6 were more likely to engage in metacognitive

activity than their younger counterparts. The developmental nature of metacognition over time from early childhood to adulthood has been further supported by Kuhn (2000) who argues that enhancing metacognitive awareness and strategy use should be a central educational goal.

Thus while metacognitive research has shown that even kindergartners can monitor their knowledge, this ability does increase with age, as learners gain not only in the amount of knowledge that can be held in memory, but also in how accurately they can monitor their knowledge. However, in judging memory-monitoring ability, it is important to consider more than simply age. One must consider the kinds of thought processes or knowledge that are being monitored. When memory-monitoring tasks are simple and do not overload working memory (e.g. simple recall or recognition tasks) there is little difference between younger and older children (Schneider, 1985). But as the complexity of tasks increases, such as using strategies to allocate greater study time to more difficult items, so does the difficulty in monitoring the thought processes necessary to complete them (Schneider, 1985). In summary, younger children do demonstrate rudimentary knowledge of metacognitive and metamemory strategies but as they get older, they learn to allocate cognitive resources more strategically and develop more sophisticated ways of using and monitoring their strategies (Holland, Joyner & Kurtz-Costes, 1997).

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