Scaffolding Talk about the Mind in 33 month-olds in a Laboratory-based Setting

CROSSING THE BORDERS
DFG FOR 2253

Irina Jarvers[1], Susanne Kristen-Antonow[1] & Beate Sodian[1]

[1]Ludwig-Maximilians Universität München

Background

Mental State Language

Mental State Language (MSL) refers to intangible states such as belief and knowledge and thus serves as a window into the mind.

Individual differences in toddlers' MSL have been linked to infants' preverbal joint attention skills (Kristen et al., 2011, Brooks & Meltzoff, 2015), and have, in turn, been shown to be predictive of later ToM (understanding others' beliefs and intentions). Toddlers at the age of 2,5 years, that mastered more mental state terms performed better on explicit theory of mind tasks at 4,5 years. While previous studies indicated that mental state terms are often not used for genuine reference to mental states in 2-year-olds (Bartsch & Wellman, 1995), recent research suggests that references to these belief and knowledge states develop earlier than previously assumed (Harris, 2016). Still, Harris (2016) found that a cogent understanding of thoughts and beliefs is rather limited in the third year of life. This is likely due to due to a limited understanding of sources of knowledge and of perspective differences. Namely the saying-knowing relation and asking about another person's knowledge amongst others. Children mainly talk about knowledge and belief in social interactions with caretakers and siblings and thus train their ToM skills through dialogue (de Rosnay & Hughes, 2006). Such dialogue might scaffold the understanding and thereby produce early abilities. As the third year of life is a transitional phase there have been few studies on the importance of dialogue. If it is indeed the case that early MSL is developmentally related to later explicit ToM abilities, then a dialogue-based training of these MSL concepts should promote early ToM understanding.

Discussion

In sum, all children that were administered the short version of the MSL training showed improvements in at least 2 scenarios, therefore indicating an enhanced understanding. The introduced case study therefore provides tentative support for the idea that the appropriate use of epistemic state language can be enhanced by specific linguistic interaction experiences in a short-term lab based training. However, a few questions still need to be answered in future research. If such an effect can be obtained, does it facilitate early TOM acquisition? And if so, is it due to the specific training intervention, rather than more general features of language or social interaction?

Literatur

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Methods

Participants

In the pilot study three 33 month-old children participated in a 6-8 session training. Two of the three children had 8 training sessions and one child had 6 training sessions.

Training (14 Sessions over 7 Weeks)

The MSL training was organized in form of a dialogue about one's own and others' epistemic states. Children receive a pre- and post-test to assess prior individual differences and improvement in performance.

Trained Scenario	Question	Description	Prompts
seeing-knowing	(I saw, therefore I know)	A puppet did not see the content. "Does the puppet know what is inside?" "Did the puppet look inside the container?"	New puppet. "And now?" "Does the puppet know?" "Does the puppet not know?"
saying-knowing	(You told me, therefore I know)	Puppet is told content. "Does the puppet know what is inside?" "Did I tell the puppet?"	Repeated with child. "Do you know what is inside? Why?" "I told you. Do you know?"
asking about another's knowledge	(Do you know? Do I know?)	E2 shows child container, while E1 looks away. "Do I know what is inside? Do you know?"	Repeated. "And now?" "Do I know what is inside?" "I don't know what's inside and you know, right?"
denying someone's knowledge	(You don't know!)	E2 did not see content. E2:"I know what is inside" E1: "Does E2 know what is inside? Did E2 look inside?"	Repeated. "I know what is inside" "I know what is inside, right?" "I know what is inside, right? Do you think I know that?"
differentiating between previous and current states of knowledge	(Before I thought A, but now I know B)	Child guesses content, shown real content. "What did you think before? What do you think now?" "Did you look inside before?"	Repeated. "And now?" "What did you think before? What do you think now?" "Did you think A? Do you now think B?"

Results

Training: Child 1 & 2

Two out of three children mastered 2/5 scenarios in the post test after failing all of them in the pretest. The first child improved in the seeing-knowing relation and the previous states of knowledge, whereas the second child improved in the saying-knowing relation and denying someone's knowledge. Both children were communicative and easily replied to the questions.

Both children showed constant performance on those two scenarios following the 5th training session, indicating its' robustness. Except for the 2 mastered scenarios the children showed correct behavior on 2 others. However the performance was not stable over training sessions.

Training: Child 3

The third child mastered 5/5 scenarios. Interestingly it was quiet throughout the 6 training sessions it received and only spoke at the post test, showing perfect performance. However it is not possible to say that input is sufficient for performance, as the child did not speak at the pretest, and therefore might have had the skills before the training.

Furthermore responses to utterances of the experimenter were present, but mostly nonverbal.

DFG Deutsche Forschungsgemeinschaft
gefördert von der DFG, FOR 2253, TP 08

Tagung der Fachgruppen Entwicklungspsychologie und Pädagogische Psychologie (PAEPSY)
Münster, 11. - 14. September 2017