

How do preschool children understand stories?

A conversation with Prof. Dr. Gerhild Nieding*

Professor Nieding, you are a developmental psychologist and study how children understand texts. What do children do differently compared to adults? What do they have in common?

Our research has shown that, at least from preschool age, children construct situation models during their reception of texts. That is, what children reconstruct from a text goes beyond the actual text (see blue box). These representations can be visual, just as with adults. When we read or hear something about a bird, for example, an idea about the shape of a flying bird can form in the situation model, even if nothing is said about this (cf. ill. 1-3). This is something adults and children have in common. A key difference is that children, even into the primary school years, tend to focus on the exact wording, what we call the “surface level” of a text. Young children often quickly notice if a story which has often been read

to them contains other words, word order or omissions, which an adult would tend not to notice. Adults, on the other hand, forget the wording more quickly and focus more on the situation model, that is, on the essence of the story. The findings of our studies also show that children tend to “over-represent” matters not mentioned in the text. For example, they often imagine how a text could continue. Adults tend to dispense with such anticipation in order to represent the content as “economically” as possible, since our cognitive capacities are limited.

What are the steps in the development of text comprehension in children?

Numerous studies in developmental psychology show that children have access to event schemas or scripts from a very early stage. These are standardized generalizations of actually experienced sequences of sub-

events. An example: the “children’s birthday party schema” contains typical sequences at children’s birthday parties. The guests arrive, presents are handed over, there is cake, games etc. (cf. ill. 4). These schemas become more and more sophisticated as children develop, and they can increasingly include protagonists. At the same time, the process structures which children understand at this stage contain few complications or attempts by the protagonists to attain goals, i.e. the elements which make up stories.

In the next phase, children also understand narratively altered events which may diverge from this schema. These include unusual actions and consequences of actions, and finally, more complex “problem-resolution” structures can be implemented, in which recurring attempts to attain goals are thematized. With reference to the “children’s birthday party” example, for instance, this would mean



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Ill. 1-3: What picture forms in your head when you hear the children’s rhyme “Once I saw a little bird ...”? A dove or maybe a stork? Children, too, often imagine a particular bird and build a little world around it, the situation model (here: with wind, rain and butterfly)



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Ill. 4: Children first learn how a birthday party proceeds: “guests arrive, presents, cake, games”

that the birthday boy or girl looks forward to the party and is disappointed because everyone seems to have forgotten the birthday – and then comes the surprise party. Or: one of the children invited has left the present at home – what can he or she do?

What do you actually mean by “text”?

A text can exist in written form, but can also contain unwritten but writable linguistic information, as in auditive (narrated) texts or “audiovisual” texts (e.g. films). We talk of a text when a coherent structure is present,

i.e. an autonomous and in certain respects closed system of signs, which are elements of the text. Thus the thing all texts have in common is that they form a coherent whole.

How does children’s text comprehension change when there are moving pictures as well?

Overall, films and images seem to make it easier for preschoolers in particular to construct situation models, in comparison to audio books. In the course of subsequent development this is reversed, and written texts become more and more important. This does not mean that films are “easy” to understand for younger children – and, incidentally, this also goes for adults. Understanding films requires an important basic component of media competence which we refer to as “media sign competence”. This includes awareness that films “represent” something else, and later knowledge about the rules of conventional film editing, i.e. the way films are cut. This knowledge is not given to us at

birth, instead we have to acquire it in the course of childhood.

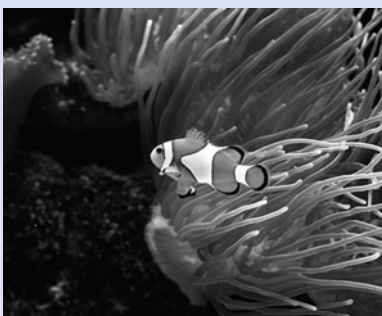
In our studies we also make comparisons between text comprehension of films, audio texts and written texts. In such experiments, texts are presented via computer to children of different ages and to adults, and we gather data on aspects of text comprehension by way of playful tasks which have to be carried out during the presentation. It becomes clear that children draw remarkably similar conclusions from all filmic, audio and written texts. This includes e.g. drawing conclusions about the emotions and overarching aims of protagonists in the stories.

So for the younger children it is especially important to understand what the characters want and what they are feeling. You describe this as the most important socio-cognitive task in the first 4 to 5 years of life: understanding oneself and others as people acting consciously and in a goal-focused manner. How can professional text pro-

How does a text get into our heads?

When we read or listen to a text, what we are reading or hearing is represented on 3 levels in our brain: first, the words and sentences of the textbase have to be reconstructed (“surface level”, “propositional level”), so that the “world in our head”, the so-called “situation model”, can be created.

“Inner cinema” comes about when elaborate situation models are created as the text is understood. These come about because we pick out elements of the text and construct content-related connections between them. Here our experience and knowledge of the world help us – the more of this we have, the more gaps in the text we can fill in. In nearly every text, we add elements using our imagination; only rarely is the text in our heads identical with the textbase (this is the case in e.g. computer languages). Here not only cognitive stores of knowledge are activated, but also emotional and body-related experiences (cf. ill. below).



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What story comes to mind when you see this clown fish (left)? Perhaps you remember emotions inspired by the film *Finding Nemo* (Disney) (centre) or you think of your own experiences of diving (right)

How does text comprehension develop?

Text comprehension is an active, constructive process which requires many skills and prior knowledge. Text comprehension continues to be developed and refined until adulthood, as our linguistic and reading skills increase and we gain more experience and knowledge of the world.

A text can remain completely incomprehensible. This happens if the recipient cannot reconstruct connections, if he or she lacks prior knowledge, or if the text itself is “badly made”, i.e. it lacks coherence.

From the point of view of developmental psychology, people are particularly receptive to stories describing people who act. The intentions, emotions and actions of the protagonists are the elements followed with most interest in text comprehension.

When we reconstruct the “hero’s journey” in a text, it does not matter if much of the exact wording gets lost. This is one reason why young children can already understand texts which create historical or fantasy worlds: they have understood the story principle and leave out the details.

ducers use stories to support preschool children in this?

We assume that the knowledge you mention, which is referred to in the literature as “theory of mind”, is generally very much fostered by stories. According to this theory it is likely that children acquire part of their knowledge about people’s intentionality from the intentionality of protagonists in stories. A milestone in this “theory of mind” is, for example, the understanding that one can be mistaken, that is, that one’s ideas about something can deviate from reality. Children learn this at the age of 3 or 4. Stories containing such structures, such as the Grimm’s fairy tale *The Hare and the Hedgehog*, also help significantly with this. Here children also learn how to tell stories in order to manipulate other people, cajole them, deceive them, flatter them; how to get what you want

without antagonizing the people you love (cf. ill. 5-7).

I think professional text producers can support preschoolers in many ways. For one thing, they can create structures from the “zone of next development”, i.e. things that children have nearly, but not quite mastered.

Multiple media are conducive to text comprehension

For another thing, I think it is beneficial to use a range of media sign systems, since this reinforces “media sign competence”, which our research has proven to be very conducive to the acquisition of content through media texts (film, audio book, hypertext etc.). In the literature, repetition and the use of redundant texts (e.g. image and soundtrack containing the same information) have also proven be-

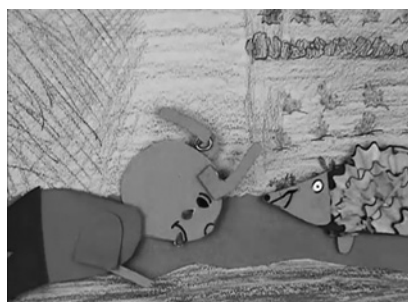
neficial for smaller children, as long as the content is situated in the “zone” mentioned, i.e. within the next developmental step.

In my opinion it is difficult to “break down” insights about the development of text comprehension into recommendations for story design. It comes down to artistic, creative, and no doubt also intuitive storytelling skills, from which our children certainly benefit in many respects. ■

* Shortened version of a conversation between Prof. Dr. Gerhild Nieding and Dr. Elke Schlote (IZI).



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Screenshots from *Trickboxx* © KiKA, Germany

Ill. 5-7: In the fairy tale *The Hare and the Hedgehog* the hedgehog tricks the hare into thinking he can outrun him. The story helps preschoolers to understand that characters can act on the basis of false assumptions. In the *Trickboxx* version by 11- and 12-year-old students, the story does not end with the defeated, exhausted hare and triumphant hedgehogs, but Mr and Mrs Hedgehog visit the hare in hospital and become friends