

# Use of Language Can Help Support Children’s Perspective-Taking Abilities

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The ability to take others’ perspectives, including understanding how they might be thinking and feeling, is an important developmental milestone and is critical for academic and social success in kindergarten through Grade 3 (Lecce & Devine, 2022). Some of the skills involved in understanding others’ perspectives include awareness of what other people think, believe, know, and feel as well as interpreting others’ behavior and comments with respect to their thoughts and intentions. Perspective-taking also includes predicting what others will do based on guesses about their thoughts, motivations, and emotions and applying what is known about a book character’s knowledge, thoughts, and emotions to support reading comprehension. All of these skills together are classified under the umbrella term “theory of mind” (abbreviated as ToM; Beaudoin et al., 2020). See the graphic below for more ideas of skills that fall under the ToM heading.

<b>Thoughts Beliefs Intentions</b>	<ul style="list-style-type: none"><li>• Infer/predict thoughts, beliefs, or intentions</li><li>• Understand causes of thoughts, beliefs, or intentions</li><li>• Predict behavior/communication based on thoughts, beliefs, and intentions</li></ul>
<b>Knowledge Desires Perceptions</b>	<ul style="list-style-type: none"><li>• Understand how people come to know things and have varying levels of certainty</li><li>• Awareness that people can have different desires or likes</li><li>• Ability to follow one’s gaze to infer their thoughts/desires</li></ul>
<b>Nonliteral Language</b>	<ul style="list-style-type: none"><li>• Humor, irony, sarcasm</li><li>• Figurative language, idioms</li></ul>
<b>Emotions</b>	<ul style="list-style-type: none"><li>• Awareness that different people can have different emotions</li><li>• Predict/infer emotions, including mixed or conflicting emotions</li><li>• Identify/regulate emotions in self and others</li><li>• Understand the causes and consequences of emotions</li><li>• Awareness that people can hide their true emotions</li></ul>
<b>Deception Lies</b>	<ul style="list-style-type: none"><li>• Awareness of lying and manipulating others’ mental states</li><li>• Awareness of involuntary lies and little white lies</li><li>• Awareness of little white lies for social reasons</li><li>• Understanding/recognizing social faux pas</li></ul>

For decades, researchers have investigated what skills support this ability to understand others’ perspectives. One of the strongest predictors for acquiring and using ToM skills is an individuals’ language abilities

(Astington & Jenkins, 1999; Milligan et al., 2007; de Villiers & de Villiers, 2014). Parents and professionals alike play important roles in supporting the development of the language abilities that are linked to success with ToM. Development of these skills can start as early as 2 years old, with a number of important components of ToM developing in the preschool and early childhood years (Wellman & Liu, 2004). Preteens and teenagers continue to develop more sophisticated understanding of others' thoughts and emotions such as mastering the use of sarcasm and considering someone else's thoughts about something (termed *second order ToM*; Osterhaus et al., 2016).

There are two main components of language that are thought to support ToM. The sections that follow first provide some details about these language components and then offer suggestions for incorporating more of the skills into interactions that will build children's language and ToM abilities. It is important to note that language and ToM have a bidirectional relationship. That is, language abilities are important for developing and using ToM abilities, but ToM skills also are used in understanding and interpreting language (Cane et al., 2017).

## **1. Thought- and Emotion-Related Vocabulary**

Understanding and using the vocabulary words that describe someone's cognitive or emotional states is critical to developing perspective-taking abilities. Such words include cognitive state-related vocabulary such as *think, feel, know, suppose, hope, puzzled, trick, and notice*. Other important words for children to know include emotional state labels such *sad, mad, disgusted, ecstatic, thrilled, and surprised*. Importantly, adults should expand on the basic vocabulary of *think, feel, happy, sad, mad* to include richer, more complex vocabulary models with words such as *embarrassed*

*proud, guilty, remember, guess, forget* (Westby & Robinson, 2014). A child's use of mental state vocabulary as well as the number of references to these types of words made by their parents and other conversation partners relate to children's ToM abilities (Symons et al., 2005). The more parents and professionals use these labels, the higher the children's later ToM skills generally are (Devine & Hughes, 2016). This relationship holds for typically-developing children (Aram et al., 2013), children with exceptional learning needs such as Down syndrome (Na & Wilkinson, 2018) and autism (Hutchins & Prelock, 2008), and children from lower socioeconomic homes (Tompkins, 2015a). Although there are some variations across cultures, the general pattern holds across languages and cultures ranging from Chinese preschoolers in Beijing (Lu et al., 2008), 3-5-year-olds in the United States (Tompkins, 2015b), and 4-5-year-olds in Iran and New Zealand (Taumoepeau et al., 2019).

It is not only parents who need to expose children to mental state vocabulary that supports ToM development, but also other professionals in the child's life such as preschool and primary school teachers, early childhood care center teachers, specialist educators such as teachers of deaf and hard of hearing children, and speech-language pathologists (Chilton & Beazley, 2018; Lecce et al., 2022; Westby & Robinson, 2014; Ziv et al., 2015). Even adjusting for individual teaching style, teachers who referenced emotional and cognitive states more often during interactions with children had students with higher ToM abilities (Lecce et al., 2022).

## **2. Specific Sentence Structure: Sentential Complements**

Some researchers have argued that it is not just referencing mental states (e.g., thoughts) that leads to ToM improvements, but the specific type of sentence used to teach mental states can drive this change in understanding (de Villiers & de Villiers, 2014).

The type of sentence is referred to as “sentential complements” and contains paired ideas. These are sentences where a proposition, or a statement, is embedded under specific types of verbs such as verbs of cognition (*think, know, believe*) and verbs of communication (*say, yell, declare*). The argument is that these types of sentences help children as young as 4 years old understand that one idea can be embedded within another and that the embedded elements can be false (Hale & Tager-Flusberg, 2003). See the diagram below for an example.

**She said that**

**the earth is flat. → false**

\_\_\_\_\_ *true* \_\_\_\_\_

**She thinks that**

**the earth is flat. → false**

\_\_\_\_\_ *true* \_\_\_\_\_



In the sentence “She said that the earth was flat,” the embedded proposition “the earth was flat” is false. Yet, the entire sentence is true. She can say that the earth is flat, even though in reality it is not flat. The structure of the sentence allows for these two components to be distinct from each other. Understanding this relationship within language is thought to be an important precursor to understanding this relationship in someone’s mental states (de Villers & Pyers, 2002). In the same way that she can say that the earth is flat, she can also *think* that the earth is flat, even though it is not flat in reality.

The language structure serves as a model for understanding how thoughts can be false. These types of sentence structures have been shown effective as an intervention strategy for building ToM. Take for example the sentence, “She said that there was a spider in the bathtub, but really it was a stain that looked like a spider.” When children practice the ability to understand and produce complement sentences such as these, they also increase in their ToM abilities (Durrleman et al., 2019). See Appendix for further examples.

### **Connection to Comprehension and Production of Narratives**

Shared reading experiences and discussions that surround the reading and comprehension of narratives provide important opportunities to engage in and build perspective-taking abilities. When children have repeated experience with books high in mental and emotional state vocabulary, they tend to have better ToM abilities (Taumoepeau & Ruffman, 2008). Similarly, when teachers and caregivers add additional discussion around the cognitive and emotional states of the characters, children improve their ability to understand others’ thoughts, feelings, and perspectives (Ornaghi et al., 2011; 2017). Discussions that include sentential complement structure, such as “The zookeeper thought that the animals were locked in their cages,” build children’s ToM understanding (Tompkins, 2015b). In particular, sentential complements with statements that directly contrast thoughts or emotions with reality (“The zookeeper thought that the animals were locked in the cages, *but really the gorilla had secretly let them all out.*”) seem to produce the most change in children’s ToM understanding (Tay & Ding, 2022; Tompkins, 2015b).

Narratives provide the opportunity to explore others’ perspectives and a context for understanding characters’ thoughts, intentions, motivations, and emotions (Tompkins et al., 2019; Kim et al., 2021).

Early ToM skills relate to later reading comprehension abilities, particularly for narratives (Atkinson et al., 2017). In fact, Dore et al. (2018) suggested that ToM skills are a critical piece of reading comprehension and detailed how representing, monitoring, and inferencing about characters' thoughts and emotions may play out when comprehending written texts.

### **How Can Professionals Support these Abilities in the Classroom?**

Below are three suggestions to build children's ToM skills. These can be utilized by teachers, speech-language pathologists, parents, or any adults in a child's life.

- **Use more mental state vocabulary within complement sentences and contrast these states with reality when appropriate.**

Watch for situations that can be explained in terms of cognitive or emotional states. If a child is left out of a group interaction because peers did not know the child wanted to play or because the peers thought the child was out of town, explain their actions (i.e., not including the child) in terms of those thoughts (i.e., because they did not know the child wanted to play). If a child is crying because his ice cream fell, explain the emotion behind the physical, observable tears: "The child is crying because he feels sad that his ice cream fell." Describe what people are thinking: "He thought his book was lost." When possible, contrast these statements with reality explicitly. The contrastive element is underlined in the following example: "Alex is crying because he thought his book was lost, but really it was in a different backpack."

- **Emphasize and explicitly discuss cognitive and emotional states of characters when participating in shared book reading activities.**

Choose books that are rich in cognitive state terms such as *think*, *believe*, *know*, and *recognize*. Look for vocabulary related to emotional states including *frustrated*, *angry*, *embarrassed*, and *disappointed*. Follow up after reading the book with a conversation inviting the child to talk about the character's thoughts or emotions (Ornaghi et al., 2017). Ask the child, "Did you see how angry the ladybug was?" "How do you know what he was feeling?" "How does your face look when you are angry?" "Have you ever been angry before?"

- **Use thought bubbles to make abstract cognitive and emotional states more concrete.**

Add thought bubbles to the characters and ask the child how they know what the character is thinking. Sticky notes can be utilized to add thought bubbles without damaging pages. Discuss how people think about things they see and things they do not see. Describe how different experiences can lead two people (or characters in books) to think different things and react or behave in different ways (Wellman & Peterson, 2013).

Everyday interactions and literacy-based activities offer a wealth of opportunities to discuss other people's unseen cognitive and emotional states. These discussions and the language included within them provide an important foundation for children to develop important perspective-taking skills. Some researchers have even argued that these linguistic skills are *required* for individuals to understand other's thoughts and emotions (e.g., de Villiers & Pyers, 2002; Pyers & Senghas, 2009). With careful attention to the language that adults are using, children can be set up for academic and social success in understanding others' minds.

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## Appendix

### Sentential Complements

Specific sentence structures can help students learn Theory of Mind. These sentence structures are called sentential complements.

**Sentential complements:** A type of sentence in which the complement of the verb is a sentence with another verb.

#### Understanding Sentential Complements

- The structure of sentential complements is as follows:

**STRUCTURE: Noun phrase + verb + ("that") + complement which is a sentence.**

**Example: The girl + thinks + that + the earth is flat**

- Use the verbs that work with this type of sentence structure:
  - Verbs of cognition: think, believe, suppose, guess, predict, pretend, etc.
  - Verbs of communication: say, declare, shout, announce, whisper, etc.
- Try plugging each of the above verbs into the following sentence frame.
  - "He \_\_\_\_\_ that the earth is flat"
- The reason this type of sentence structure is thought to help children understand others thoughts and beliefs is that the complement component ("the earth is flat") can be false but the sentence is still true. Just like someone's thoughts can be false, but reality is true. This teaches children to hold two conflicting representations in their minds at the same time.

#### Teaching Sentential Complements

- Use the verbs that work with this type of structure in examples, explanations, and questions about experiences and texts.
  - Why do you think that Alex is crying?
  - Alex is crying because he thought that his backpack was lost but really it was under his bed.
- Add a statement that explicitly points out how the thoughts/beliefs are different than reality.
  - Example: She thought the Band-Aid box contained Band-aids but actually it contained candies.
- Use examples from literature, specifically statements that contrast thoughts with reality.
  - Example: "Little Red Riding Hood thought she was visiting her grandmother, but really she was talking to the wolf who was pretending to be her grandmother."