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Tricks, lies and mistakes: identifying Theory of Mind concepts within storybooks shared with deaf children

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ABSTRACT
Recent years have seen a significant interest in Theory of Mind (ToM), the specific groups in which it may be restricted and the opportunities which might enhance or suppress development. Previous studies have identified gaps in the literature concerning ideas for intervention and strategies which may augment the development of ToM skills. Published work suggests the use of children's fiction to support understanding of ToM for young children. However, the current body of evidence does not critically appraise the value of picture books in developing the ToM of deaf children or provide analysis of the elements of ToM they may contain. This paper considers the opportunities held in children's fiction and details analysis based on a developmental perspective of ToM (Westby, C. and Robinson, L., 2014. A developmental perspective for promoting theory of mind. Topics in language disorders, 34 (4), 362–382). The books analysed were chosen by educators of deaf children and researchers in the field. The opportunity for practitioners and parents to see aspects of ToM in readily accessible fiction is considered with a view to exploiting booksharing for ToM discussion.

Introduction

Human beings are complex. Thoughts and emotions are complicated, abstract and invisible when isolated from the facial expressions, behaviours and words which support their recognition. As inhabitants of the social world we not only have the challenge of working with the set of thoughts and emotions that we hold but also in understanding the thoughts and emotions of others. When we communicate with others, people who are adept at navigating social situations are easy to recognize as are those who find navigating the social world more perplexing. However, whilst these skills are pivotal to our interactions, most people use them implicitly and without conscious thought.

In academic literature, understanding the thoughts and emotions of ourselves and others is labelled Theory of Mind (ToM), a phrase coined by Premack and Woodruff (1978) and often described as ‘mind-reading’ or ‘perspective taking’. The importance of the topic cannot be overlooked considering that refining and developing ToM skills can support the ability to empathize with others (Peterson 2016), the making of reciprocated friends and prevention of friendlessness (Peterson and Siegal 2002, Fink et al. 2015) and even peer-popularity (Peterson et al. 2016a). ToM is considered to be vulnerable within certain populations including those with Autistic Spectrum Disorder (ASD) (Baron-Cohen et al. 1985), deafness (Peterson and Siegal 1998, O’Reilly et al. 2014) and other aetiologies (Byom and Turkstra 2012). Unlike the connection between ASD and ToM, the connection between deafness and ToM is indirect and hinged on the impact of the environment. The importance of shared common language in the home (Peterson and Siegal 1995, Courtin 2000, Woolfe et al. 2002, Schick et al. 2007), exposure to conversations about mental states (Moeller and Schick 2006), as well as environments and people who facilitate ‘closeness’ of communicative experiences (Woolfe and Smith 2001, Woolfe et al. 2002, 2003) have been seen to be key to deaf children’s ToM development. Whilst clear links between language and ToM development have been demonstrated, emerging evidence suggests a complex and interwoven relationship with deaf children’s ToM ability predicting peer social skills over and above other factors such as age, gender, language ability and the impact of being a native or late-signer (Peterson et al. 2016b).

The developmental process of ToM in children is now well understood with clear frameworks describing the potential subskills involved and typical ages of development (Wellman and Liu 2004, Peterson et al. 2012, Westby and Robinson 2014). The idea that ToM is a unitary construct (i.e. the dimensions and aspects of ToM being one and the same) that emerges between the ages of 4 and 5 years has given way to the understanding of ToM as a multidimensional...
construct (Westby and Robinson 2014). This multidimensional construct involving the cognitive (thoughts) and affective (feelings) domains, pertains to self (intrapersonal) and others (interpersonal) (Westby and Robinson 2014). It is now acknowledged that ToM does not suddenly emerge but involves precursors which can be seen in infancy (Surian et al. 2007, Balilargeon et al. 2010). A review from Dvash and Shamay-Tsoory (2014) supports the multidimensional construct of ToM by identifying the neurophysiological/neuroanatomical functioning of the brain when exposed to different elements of ToM and empathy. This suggests a need for those who teach deaf children to have a working knowledge of its multidimensionality in the best interests of enabling opportunities for deaf children. It is hoped that the framework discussed later within this article will support the opportunities for applied teacher knowledge.

Literature in the field has called for practical and meaningful interpretations of research evidence which relate to classroom practice with deaf children (Swanwick and Marschark 2010, Chilton and Beazley 2014, Beazley and Chilton 2015, Chilton and Beazley under review). Outside of Deaf Education, a body of evidence has considered the connections between reading fiction and ToM. Studies note that adults who frequently read fiction function at an advanced level on measures of empathy and social cognition (Mar et al. 2006, Mar et al. 2009, Black and Barnes 2015). There are several contrasting ideas with respect to this. The first is that reading fiction has the potential to enhance ToM not due to the process of reading per se but due to the meta-linguistic material embedded within the books. This is based on the premise that fiction contains characters, language or plots which are conducive to enabling readers to utilize their ToM skills. Within an adult population, Kidd and Castano (2013) evidence the effect of reading ‘literary fiction’ (described as writerly and polyphonic) on the development of ToM skills. Those who read literary fiction (in comparison to those who read non-fiction or popular fiction and non-readers) showed improved performance on ToM tasks. The work of Kidd and Castano (2013) and Zunshine (2011) suggests that reading fiction supports ToM development although there is a question of ‘style’ and it is unclear as to how long-lasting the effects may be (Kidd and Castano 2013). Considering empathy as one specific component of ToM enables us to see links between the development of empathy and reading fiction. Bal and Veltkamp (2013) and Stansfield and Bunce (2014) suggest that reading fiction enables readers to become more empathic than those who read non-fiction, but only when they are emotionally transported into the story. This is an important consideration for professionals in Deaf Education as a wealth of literature has evidenced the vulnerability of some deaf children to the development of empathy (Netten et al. 2015).

The second idea related to the meta-linguistic features of fiction is the inclusion of mental states within the book. These mental states may present as terms in the printed narrative (e.g. know, believe, guess, wonder) or in the ‘talk around the book’ in dialogic reading. Dyer et al. (2000) found that children’s books increase their reference to mental states according to age with books aimed at 5–6 year olds including a higher frequency of and wider variety of mental state references compared with those aimed at 3–4 year olds. Based on the inclusion of mental state terms, the findings indicate the potential of storybook reading for ToM development. Adrian et al. (2007) evidenced that maternal use of cognitive verbs in storybook reading correlated to their children’s later performance on ToM tasks.

Westby and Robinson (2014) and Nikolajeva (2013) suggest a range of books and consider the role of booksharing to enhance ToM development. With a specific focus to enhancing ToM skills in deaf children, Stanzione and Schick (2014) suggest that books such as ‘Little Red Riding Hood’ have potential to enhance children’s exposure to dual mental representations although the specific ToM components in such books were not analysed. Concluding a study which specifically considered the need to enhance ToM skills in deaf children, Jones et al. (2015) discussed the need for research into the value of picture books as a mode of intervention with deaf children.

Considering the links between ToM and fiction reading from a different angle, there is evidence to suggest that refined abilities in ToM help the reader to understand the deeper meaning and inference of the book. Exemplifying this, Holmer et al. (2016) found a positive association between reading comprehension abilities and ToM in deaf children. In this study, Swedish Sign Language comprehension did not correlate to a more advanced ToM contrasting with earlier research (Courtin and Melot, 2005) which showed that access to native sign supports ToM development when children are tested on false-belief tasks. Similarly, Pelletier and Beatty (2015) found that second-order ToM (for example, the ability to appreciate what a person is thinking/feeling about what another person is thinking/feeling) predicted a hearing child’s ability to understand Aesop’s Fables (folktales characterized by themes of morality and deception). It emphasized the importance of mental state awareness in enabling children to judge character, intentionality, and deeper messages within the story.

The evidence suggests a close relationship between reading fiction and ToM. Concepts of ToM are suggested to be deeply embedded in the context of books with potential to be utilised to support children’s ongoing development but ToM is also suggested to be
needed to truly understand the story. Whereas the adult U.K. population demonstrates great diversity in prevalence of reading (Booktrust 2013), we might assume that children have more regularity in exposure to fiction reading as this forms part of both the primary and secondary curriculum. In situations where ToM is seen to be vulnerable (e.g. for deaf children) the presence of ToM concepts in shared books may support development although it is recognized potential gains may be influenced by the type of books shared and the approach taken by the sharer. This paper considers a framework for identifying elements of ToM within children’s picture books in order to support their progression of ToM skills. The paper considers the following:

1. Can the ToM framework in Westby and Robinson (2014) be used to identify ToM within children’s fiction?
2. What elements of ToM can be found in children’s fiction storybooks shared with deaf children?

Methodology

Two previous reports (Beazley and Chilton 2015, Chilton and Beazley, under review) discuss a project which considers the role of educators of deaf children, their understanding of ToM development and the strategies used when undertaking shared reading. Five Teachers of the Deaf (ToDs) within that study were asked to select books to read with deaf children in a book-sharing activity. ToDs were asked to select books which focussed on ‘thoughts and beliefs’, excluding books from book schemes designed to support emerging reading skills. Teachers were provided with examples of books to support thinking but selected their own choices (which could be one of the examples or a different book). This was reported in Beazley and Chilton (2015). The ToDs shared books with children they regularly work with aged between 4 and 8 years old, a time where children are typically displaying an increasing understanding of ToM (Westby and Robinson 2014). All the children and ToDs used English as their first language and the teachers worked in a range of settings including peripatetic services, resource bases in mainstream schools and in a school for the deaf. This paper considers the range of ToM concepts evident in the books used within the previously reported studies (Beazley and Chilton 2015, Chilton and Beazley 2016, under review).

Analysis

Five books are the focus of discussion for this paper. The books were read several times by the researcher to gain a grasp of the theme and subject matter of the book. Each book was then analysed for the following: linguistic features, number of pages, illustrative content, mean words per page, mental and emotional state terms and characters. This enabled the researcher to have an overview of the book before considering potential ToM concepts. The basis for analysis of the ToM concepts in the books was derived from Westby and Robinson (2014) who suggest a framework for understanding subskills of ToM within the cognitive and affective domains and separate these into a developmental framework of ToM e.g. pre-ToM skills, first order, second-order and higher-order skills. An adapted (with permission) overview from Westby and Robinson (2014) is shown here. The author encourages readers to consult the original work for a comprehensive understanding (Table 1).

The developmental trajectory outlined in Westby and Robinson (2014) was used as a theory-driven code (Boyatzis 1998), enabling the researcher to consider elements of the books which relate to the order of ToM skills (i.e. first order through to higher order). The books were coded by the author, noting each possible thread of ToM with the potential for exploitation by those who teach deaf children. It is acknowledged that other readers of the books may highlight different aspects than have been reported here (as we all infer meaning to the written word). However, the paper here presents a starting point from a researcher/practitioner who is familiar with developmental aspects of ToM and children’s literature and has previously reported on aspects of ToM in ‘Strange Stories’ (Chilton and Beazley 2014).

Results

Overview of books

The included books are readily available in the U.K. and are used within primary settings in the U.K. It is expected that readers of Deafness and Education International are familiar with some or all of the books. An overview of the style of each book can be seen in Appendix 1.

Analysis of ToM content

All books within the study included a depth and variety of ToM concepts. The books incorporated these features in a multitude of ways. Two of the books demonstrated the opportunity to discuss first- and second-order concepts. Three of the books demonstrated the opportunity to discuss first-, second-order and higher-order concepts.

One of the books within the study, The Gruffalo by Donaldson (1999), demonstrates a plethora of higher-order elements of ToM, including the opportunity to discuss multiple embeddings, the understanding of strategies to hide and detect deceit and presentational
lies. Whilst Eat Your Peas (Grey and Sherratt 2007) was linguistically simple and visually clear, it lent itself to discussing lies and persuasion and may be used to invoke discussion including higher-order elements. Within Arthur’s Tractor (Goodhart 2003) there was the opportunity to exploit the illustrative content which demonstrated that Arthur did not know about the story which was unfolding behind him. Handa’s Surprise (Browne 2006) and Mrs Rainbow (Griffiths 2006) included opportunities to promote discussion of first and second-order ToM. Whilst Handa’s Surprise is regularly used in U.K. primary setting for vocabulary work due to the range of animals and tropical fruits, the opportunities for ToM-based work appear integral to the book with Handa continuing the journey with the false belief that she was still carrying the range of fruits.

Whilst research has shown the potential for parental use of mental state terms in augmenting ToM understanding (Moeller and Schick 2006) the books in this study did not rely on this to overtly display ToM concepts. For example, in The Gruffalo, only one emotional state term (afraid) and one mental state term is used (know). However, this book includes a range of ToM concepts from first order up to higher-order levels and presented as the most cognitively complex book when considering such concepts. Mrs Rainbow included the most words per page, more mental and emotional state terms and comparatively more complex words that other books in the study. However, these features of the book did not correlate to a more extensive range of ToM concepts within the book. Books with fewer words per page (e.g. Handa’s Surprise) still gave the opportunity for discussion of ToM concepts with a range of second-order elements being integral to the book.

### Discussion

In support of earlier theories, it appears that picture-book fiction contains content that could be used to stimulate the development of ToM (Stanzione and Schick 2014, Westby and Robinson 2014). All books contained plots conducive to discussing ToM with deaf children and these ranged across first-order, second-order and higher-order concepts. Whilst previous studies identified the potential of booksharing, this study offers a meta-analysis of five examples used with deaf children by applying knowledge of ToM concepts (Westby and Robinson 2014).

A dichotomy between research and practice in ToM and deaf children has been suggested in the literature (Swanwick and Marschark 2010, Beazley and Chilton 2015) and emerging evidence demonstrates the importance of knowledge of developmental ToM as a subject specialism for practitioners who work with deaf children (Chilton and Beazley under review). This paper acknowledges that cognitively complex ideas are stored in picture books designed for young children. In establishing a starting point for identifying ToM themes in picture-book fiction it is hoped that practitioners will continue to recognize ToM themes in other books and work with others in doing so (e.g. parents, mainstream teachers). The most cognitively advanced book in terms of ToM concepts (The Gruffalo) displayed several themes which would be considered within the
Westby and Robinson (2014) framework as developing as higher-order skills, aged 8 and beyond. However, this book is regularly used with children in early-years settings and, by the age of 8, children and teachers have generally progressed to more linguistically challenging reading materials. For some older deaf children there may be a place for the use of texts with accessible vocabulary if the intended outcome is to improve ToM skills and the content within the book can be guaranteed to be richly exploited.

Whilst there is a wealth of knowledge that maternal input of mental state terms is closely correlated to later success with ToM-based tasks (de Rosny and Hughes 2006, Moeller and Schick 2006, Laranjo et al. 2010), there was no correlation between high levels of mental state and emotional state terms and opportunity for discussion of ToM concepts within the books in this study. This sits in agreement with research from Adrian et al. (2010) where mothers’ use of cognitive verbs when sharing wordless picture books had a positive correlation to children’s later performance on ToM tasks. The study suggests that the use of wordless picture books meant that mothers did not rely on the inclusion of cognitive verbs within the written text of the story. Similarly, Peskin and Astington (2004) compared a book (Rosie’s Walk) which had been adapted to include explicit metacognitive verbs with a version that did not include such metacognitive verbs. The control group (without explicit metacognitive verbs) exceeded the group with metacognitive verbs on later false-belief tasks. It was suggested that this may be because the control group had to actively construct their own interpretation of the stories. Narvaez (2002) notes the integral role of the adult in identifying inference and supporting the child’s ability to construct meaning. This illustrates the critical nature of teacher subject-knowledge of ToM (Chilton and Beazley, under review).

The variety of approaches used in booksharing with deaf children is noted by Swanwick and Watson (2007) who found that families using spoken language focused on the features of the text and had less inclination to use the book to promote wider knowledge. History has warned of the damaging effect of simplifying conversations with deaf children (Wood et al. 1986). The need to ensure ease of communication must be balanced with the vital roles that those around the child have in supporting social cognition. Whilst ‘strategies for intervention’ may be discussed in the field here are a selection of books, readily available amongst many others, which already include a range of opportunities for parents and teachers alike to enhance children’s ToM understanding.

Some of the books within the study are highly acclaimed in the U.K. (The Guardian 2014, TES 2015). It is unclear whether this is because complex elements of ToM form such an integral part of the plot (as in The Gruffalo). It is possible that a depth of ToM concepts supports a book’s ability to be read and reread with discussion taking shape in different ways. The introduction to this paper discussed Kidd and Castano’s (2013) research which identifies ‘literary fiction’. There is room for debate as to whether this extends to children’s literature. Whilst this paper considers the opportunities in texts for primary aged deaf children there are clear opportunities in texts for older children. Considering books for older primary readers such as Esio Trot (Dahl 1991) and books from the secondary curriculum such as Stone Cold (Swindells 1995) (suggested by Angela Mather, ToD) may provide the opportunity to extend this work. Whilst ToM is not referred to explicitly within U.K. curriculum, it is a prerequisite to many elements therein such as to be able to infer when reading or to anticipate the answer sought by the examiner within assessments. Whilst practitioners and families find ways to work with deaf learners to enable access to reading materials from the secondary curriculum there may the underlying opportunity to use them to exploit ToM understanding.

Whilst books give a permanent and physical representation of ToM it is important to recognize the potential to work on social cognition through other mediums. Black and Barnes (2015) discuss the impact of TV drama viewing on the development of ToM. They found that people who viewed TV drama performed significantly better on the ‘Reading the mind in the eyes’ task than those who viewed a documentary. This suggests that it is not the medium (e.g. books, films) which may aid ToM development but the opportunity to see the embedded ToM themes. As we move towards a sophisticated and developmental understanding of ToM it is hoped that those around deaf children will find examples in the ordinary and everyday world. It is how those examples are exploited that is likely to make the difference.

Conclusion

All five books discussed within this paper showed evidence of the inclusion of ToM including first, second-order and higher-order concepts demonstrating the potential that ‘off the shelf’ fiction has in enhancing deaf children’s ToM. The developmental framework by Westby and Robinson (2014) supported the identification of ToM concepts in books which had been shared with deaf children. Frameworks such as this may support ToDs as a form of aide memoir and the model of analysing children’s fiction for ToM concepts could enable others to select books with ToM contents. The model presented here may also support practitioners to consider how they might exploit concepts within a book already in use in the classroom. Future directions may include consideration of books suitable for older children including books which form part of the secondary curriculum. Further practice-centred
work with deaf children is required to understand the impact that this form of shared reading may have on the progression of deaf children’s skills and endeavours in the social world. The consideration of how practitioners work with older deaf children and adolescents is sparse within the literature but measures which take into account the multidimensional and holistic nature of ToM are beginning to emerge (Hutchins et al. 2017) and may be used in conjunction with focussed booksharing to evidence progress that deaf children and young people are able to make with highly specialized support.

Parents and practitioners who work with deaf children in the U.K. are now challenged not only to focus on the development of spoken or signed language but to work within the subtlety of that developing language. With a noted lack of clarity as to how ToM should be assessed in deaf children (Beazley and Chilton 2015) there lies the risk that it can appear intangible and abstract in practice. However, as theory discusses the move from a unitary construct to a multidimensional construct, practice must move too. The move for practice is to understand and see ToM in its multidimensional form (affective/cognitive; pre-ToM to higher-order, intra/interpersonal ToM skills) and in a multitude of settings and mediums. Whilst this paper discusses the move from a unitary construct to a multidimensional form (affective/cognitive; pre-ToM to higher-order, intra/interpersonal ToM skills) and in a multitude of settings and mediums. Whilst this paper enables readers to see a tangible representation of ToM concepts identified in books shared with deaf children there is still much to learn in practical application.

**Disclosure statement**

No potential conflict of interest was reported by the author.

**Notes on contributor**

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Netten, A.P., et al., 2015. Low empathy in deaf and hard of hearing (pre)adolescents compared to normal hearing controls. Plos one, 10 (40). doi:10.1371/journal.pone.0124102
## Appendices

### Appendix 1

<table>
<thead>
<tr>
<th>Book</th>
<th>Number of pages</th>
<th>Linguistic features</th>
<th>Illustrative content</th>
<th>Mean words per page</th>
<th>Mental state terms</th>
<th>Emotional state terms</th>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Gruffalo</td>
<td>22</td>
<td>End rhyme, Repetition, Imagery e.g. Gruffalo crumble, scrambled snake</td>
<td>Detailed cartoon style Closely follows narrative</td>
<td>29</td>
<td>Know</td>
<td>Afraid</td>
<td>Animals</td>
</tr>
<tr>
<td>Handa’s Surprise</td>
<td>24</td>
<td>Repetition, Some vocabulary uncommon to U.K. e.g. guava</td>
<td>Detailed cartoon style Depicts Kenyan culture Closely follows narrative</td>
<td></td>
<td>4</td>
<td>Wonder, surprise</td>
<td>Human, true to life</td>
</tr>
<tr>
<td>Arthur’s Tractor</td>
<td>24</td>
<td>Ideophones (chugga thrum, thud, eek), Figurative language Invented/unfamiliar technical language e.g. sprocket spring spigget</td>
<td>Detailed cartoon style Showing background and foreground Illustrations show more than narrative</td>
<td></td>
<td>20</td>
<td>None</td>
<td>Human, true to life</td>
</tr>
<tr>
<td>Eat Your Peas</td>
<td>24</td>
<td>Repetition, Simple common words</td>
<td>Closely follows narrative 2D cartoon Bold colours Close up images of characters’ expressions</td>
<td>21</td>
<td>None</td>
<td>Knew, want</td>
<td>Human, true to life</td>
</tr>
<tr>
<td>Mrs Rainbow</td>
<td>32</td>
<td>Some complex words (unanimously, reluctantly, emerge)</td>
<td>Bright and bold colours 2D cartoon style Closely follows narrative</td>
<td>38</td>
<td>Believe</td>
<td>Happy, worried, excited, glad, sad, courage, embarrassment</td>
<td>Human, true to life</td>
</tr>
</tbody>
</table>

### Appendix 2

**Handa’s Surprise** (Browne 2006) Handa sets off to visit Akeyo with a varied basket of fruit. The fruit is stolen piece by piece by a range of animals without her knowledge. She is surprised to find the basket full of tangerines which fell when a goat hit a tree. Akeyo appears delighted with the tangerines, unaware of the previous variety of fruit.

**First-order skills**
- Attribute thoughts (cognitive)/feelings (affective) to others
- Pass false-belief tasks
- Understand that we know information because we have seen it or heard it
- Can predict a person’s actions on the basis of a person’s false beliefs
- Identify character’s feelings according to whether wishes are fulfilled

**The reader will acknowledge:**
- Handa is thinking about her friend Akeyo and about the fruits. She likes the look of them, but it is persuasion.
- Handa believes throughout that the basket is still full of the selection of fruit. She does not know that animals have taken the fruit as she has not seen it. Later, she does not know about the tangerines, still believing that the basket is full of the initial selection of fruit.
- Handa is thinking about her friend Akeyo and about the fruits. She looks like she feels happy with one type of fruit, not knowing about the others.
- Handa might feel surprised about the tangerines but happy that Akeyo is happy. She may later feel cross upon finding out that the animals had taken the fruit/confused and left wondering what happened.

**Second-order skills**
- Think about what one person is thinking or feelings about what another is thinking or feeling
- Understand that one can have first one emotion and then a second emotion on the same situation

**The reader will acknowledge:**
- Throughout the book Handa is wondering what Akeyo will think/feel about the different fruits/the gift.
- Handa believes she is still carrying the selection of fruit. She carries on to Akeyo’s home because she does not know the animals have taken fruit.
- Handa wanted to take a selection of fruits to Akeyo. At the end she is feeling surprised. She may feel disappointed. Akeyo is delighted with the tangerines and happy with one type of fruit, not knowing about the others.

**Eat Your Peas** (Grey and Sherratt 2007) Mum attempts to encourage her daughter to eat her peas. Mum’s attempts to persuade increase using phrases such as ‘If you eat your peas I’ll buy you a chocolate factory’. The story ends the daughter’s exclamation that she will eat her peas if mum eats her brussels sprouts.

**First-order skills**
- Attribute thoughts (cognitive) and feelings (affective) to others
- Think about what one person is thinking or feelings about what another is thinking or feeling

**The reader will acknowledge:**
- Daisy is becoming more and more cross/Mum is getting more and more frustrated. Mum’s lip ‘beginning to wobble’ means she is becoming upset. Mum’s ‘weared-out’ means she is becoming upset.
- Mum is becoming cross as Daisy will not do what she wants her to do.

**Second-order skills**
- Attribute thoughts (cognitive) and feelings (affective) to others
- Think about what one person is thinking or feelings about what another is thinking or feeling

**The reader will acknowledge:**
- Daisy knows that Mum wants her to eat her peas and is thinking of ways to encourage her to do so. Mum believes that Daisy will feel persuaded by mum’s offers.
- Mum is lying about what Daisy will get if she eats her peas. Daisy knows she will not get these things – it is persuasion.
- Mum felt it was ok to persuade Daisy to eat her sprouts but felt differently when Daisy tried to persuade her to eat sprouts.

**Arthur’s Tractor** (Goodhart 2003) A farmer believes that the strange noises he hears are caused by his tractor but behind him a fairy story unfolds and the noise is created by a princess escaping from a dragon. He is unaware of what is happening in the background as he does not see it.

**1st order cognitive/affective ToM**
- Attribute thoughts (cognitive) and feelings (affective) to others

**The reader will acknowledge:**
- The princess is scared of the dragon.
### Understanding of lies

- Understand strategies to hide deceit and to detect deceit
- Higher-order skills
  - Another is thinking or feeling
    - Think about what one person is thinking or feelings about what another is thinking or feeling
  - Second-order skills
    - Can judge situation and understand that people remember, forget, guess
  - Higher-order skills
    - Understanding figurative language

#### The Gruffalo (Donaldson 1999)

A mouse avoids being eaten by a fox, owl and snake by saying he is going to have tea with a Gruffalo. On encountering a real Gruffalo he avoids being eaten again by saying he is the ‘scariest creature in the wood’ and encouraging the Gruffalo to walk behind him. When the other animals see the Gruffalo they are convinced that he is the mouse’s friend and run away. The Gruffalo believes that the animals are scared of the mouse and runs away. The mouse escapes unharmed.

<table>
<thead>
<tr>
<th>First-order cognitive/affective ToM</th>
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<tbody>
<tr>
<td>Attribute thoughts (cognitive) and feelings (affective) to others</td>
</tr>
<tr>
<td>Actions can be predicted on basis of false beliefs</td>
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<tr>
<td>Pass false-belief tasks</td>
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<tr>
<td>Understand not only what people see but how it appears to them</td>
</tr>
<tr>
<td>Pass false-belief tasks</td>
</tr>
<tr>
<td>Understand that we know information because we have seen it or heard it</td>
</tr>
<tr>
<td>Understand that thoughts and emotions are caused by what people think is the case even if it conflicts with reality</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Second-order skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think about what one person is thinking or feelings about what another is thinking or feeling</td>
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<table>
<thead>
<tr>
<th>Higher-order skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding strategies to hide deceit and to detect deceit</td>
</tr>
<tr>
<td>Presentational lies: making oneself look good in the eyes of others</td>
</tr>
<tr>
<td>Understanding of lies</td>
</tr>
<tr>
<td>Multiple embeddings</td>
</tr>
</tbody>
</table>

#### Mrs Rainbow (Griffiths 2006)

Bright colours make Mrs Rainbow happy. Her house is brightly painted. The town council instruct her to paint it grey. This impacts on her mood and emotions. When the other people in the village paint their houses bright colours and she is allowed to repaint her house in the colours she likes.

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<thead>
<tr>
<th>First-order skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute thoughts (cognitive) and feelings (affective) to others</td>
</tr>
<tr>
<td>Understand now only what people see but how it appears to them</td>
</tr>
<tr>
<td>Understand that we know information because we have seen it or heard it</td>
</tr>
<tr>
<td>Understand that beliefs cause people to act in certain ways</td>
</tr>
<tr>
<td>Identify character’s feelings according to whether wishes are fulfilled</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second-order skills</th>
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<tbody>
<tr>
<td>Think about what one person is thinking or feelings about what another is thinking or feeling</td>
</tr>
<tr>
<td>Can describe situations where emotions such as jealousy, worry, pride, shame, guilt may emerge</td>
</tr>
</tbody>
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Arthur has the false belief that his tractor is making the noises items from the background story (sword, dragon’s fire, princess’ dress) appear to be things to fix a tractor with. Arthur does not know about the story unfolding in the background because he did not initially see or hear it. Arthur attributes noises he hears on things surrounding him to faults with the tractor. He continues to concentrate on fixing the tractor because of his fault belief. Throughout the book Arthur continues along a trajectory that he may not have done if he could see what the reader sees/if he had been told.

<table>
<thead>
<tr>
<th>The reader will acknowledge:</th>
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<tbody>
<tr>
<td>The wolf, fox and snake are thinking about eating the mouse</td>
</tr>
<tr>
<td>We can see that the fox will run away because he believes the mouse. The same is true for the other animals and the Gruffalo at the end of the story</td>
</tr>
<tr>
<td>At the start there is no evidence of the Gruffalo but for the animals it appears to be something to be scared of</td>
</tr>
<tr>
<td>The animals run away feeling scared because he believes the Gruffalo eats roasted fox (owl icecream or scrambled snake). The animals have false beliefs</td>
</tr>
<tr>
<td>The reader knows that the mouse is lying as he says ‘silly old owl, doesn’t he know? There’s no such thing as a Gruffalo’. However, the other animals do not hear this and do not know</td>
</tr>
<tr>
<td>The Gruffalo thinks that the mouse is something to be scared of. In reality, he is a small, harmless mouse</td>
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<tr>
<td>The mouse believes that the animals believe there is a Gruffalo. He knows he is doing a good job of tricking him. The animals believe that the mouse is telling the truth. The mouse believes that the animals feel scared of the Gruffalo. The mouse knows that the Gruffalo thinks the mouse is the scariest creature in the wood</td>
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<td>The Gruffalo is suspicious and follows the mouse to ‘find him out’. The mouse knows that if the animals AND the Gruffalo believe him he will be successful in his trickery</td>
</tr>
<tr>
<td>The mouse claims ‘I’m the scariest creature in this wood’ to the Gruffalo</td>
</tr>
<tr>
<td>The animals invite the mouse to their homes for lunch because they want to eat him. The mouse lies throughout the book. He knows he is lying and to ensure that his initial lies (‘I’m having tea with a Gruffalo’) are believed he has to continue to convince the Gruffalo that the animals are scared of him</td>
</tr>
<tr>
<td>The mouse knows that the Gruffalo thinks the animals feel scared of the mouse. At the end, the Gruffalo believes the mouse believes that the other animals are scared of the mouse</td>
</tr>
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<td>Mrs Rainbow runs through a range of emotions within the book</td>
</tr>
<tr>
<td>Having colourful things in the house make Mrs Rainbow happy</td>
</tr>
<tr>
<td>Removing the colour from her home makes her sad and withdrawn</td>
</tr>
<tr>
<td>It appears to Mrs Rainbow that no one likes the rainbow house as the Planning Committee decided the house should be repainted</td>
</tr>
<tr>
<td>The reader and Mrs Rainbow both know about the council decision because of the letter but the villagers do not appear to know until they see the house painted grey</td>
</tr>
<tr>
<td>Believing that others do not like her house makes Mrs Rainbow feel sad. The belief makes her stay indoors</td>
</tr>
<tr>
<td>Buying items for the home at the school fair fulfils her wishes and makes her smile. She is happy in the end when her desire to have a brightly coloured house is fulfilled</td>
</tr>
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<tbody>
<tr>
<td>The villagers know that Mrs Rainbow is happy in the end. Mrs Rainbow believes that the villagers felt kind towards her</td>
</tr>
<tr>
<td>The villagers feel proud of their actions</td>
</tr>
<tr>
<td>The councillors feel embarrassed to be hugged at the end</td>
</tr>
</tbody>
</table>