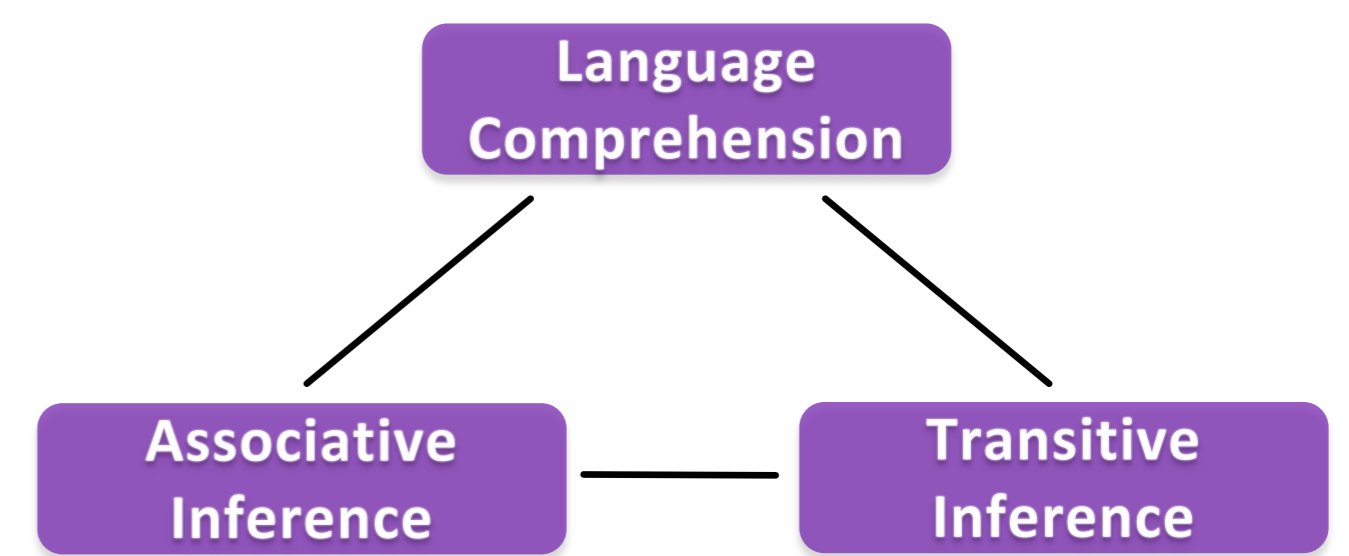


## BACKGROUND

- Poor language comprehension is a common and often overlooked hurdle for many children<sup>1,2</sup>. As such, identifying which cognitive skills underlie comprehension is of critical importance.
- Previous research has suggested that language comprehension is dependent on using background knowledge to actively infer details that are not explicitly stated<sup>3,4</sup>. Impairment in this ability to infer would lead to poor language comprehension.
- We hypothesised that language comprehension skills would be predicted by two different cognitive skills, associative and transitive inference, in a sample of young and healthy adults.



- This is the first time that all these abilities have been assessed together.

## METHODS

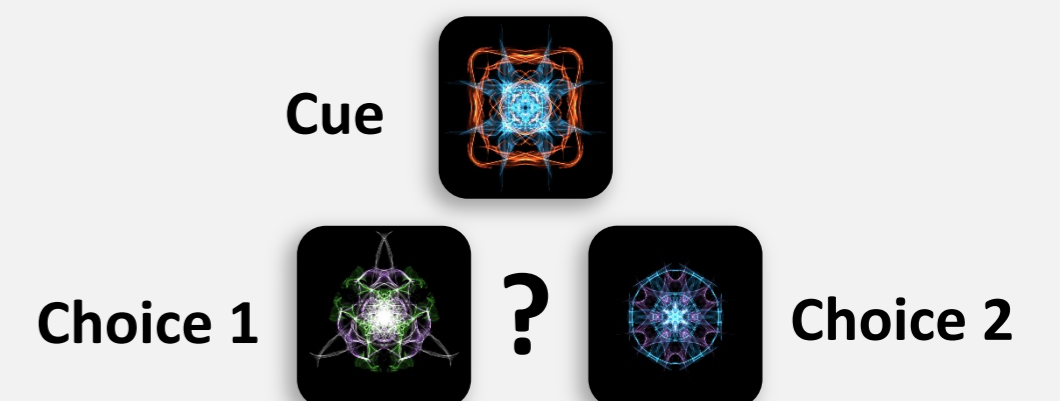
### Training

#### AI Task

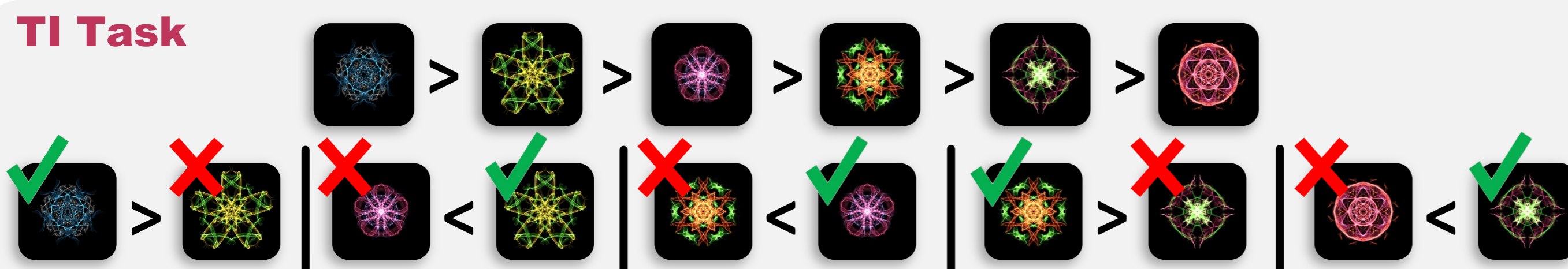


### Generalisation

Which 'choice' was paired with the 'cue' most often?



#### TI Task

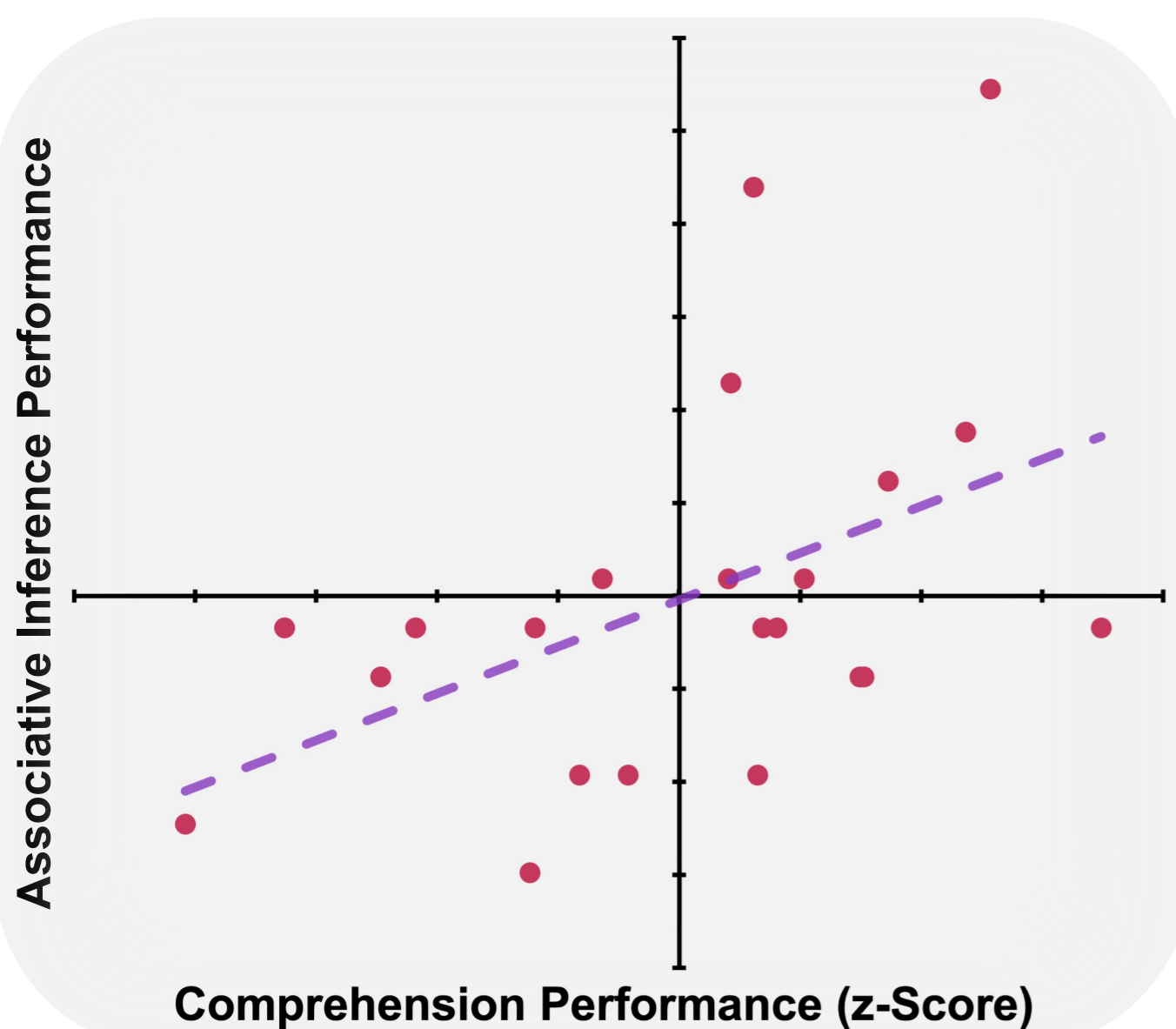


#### LC Task

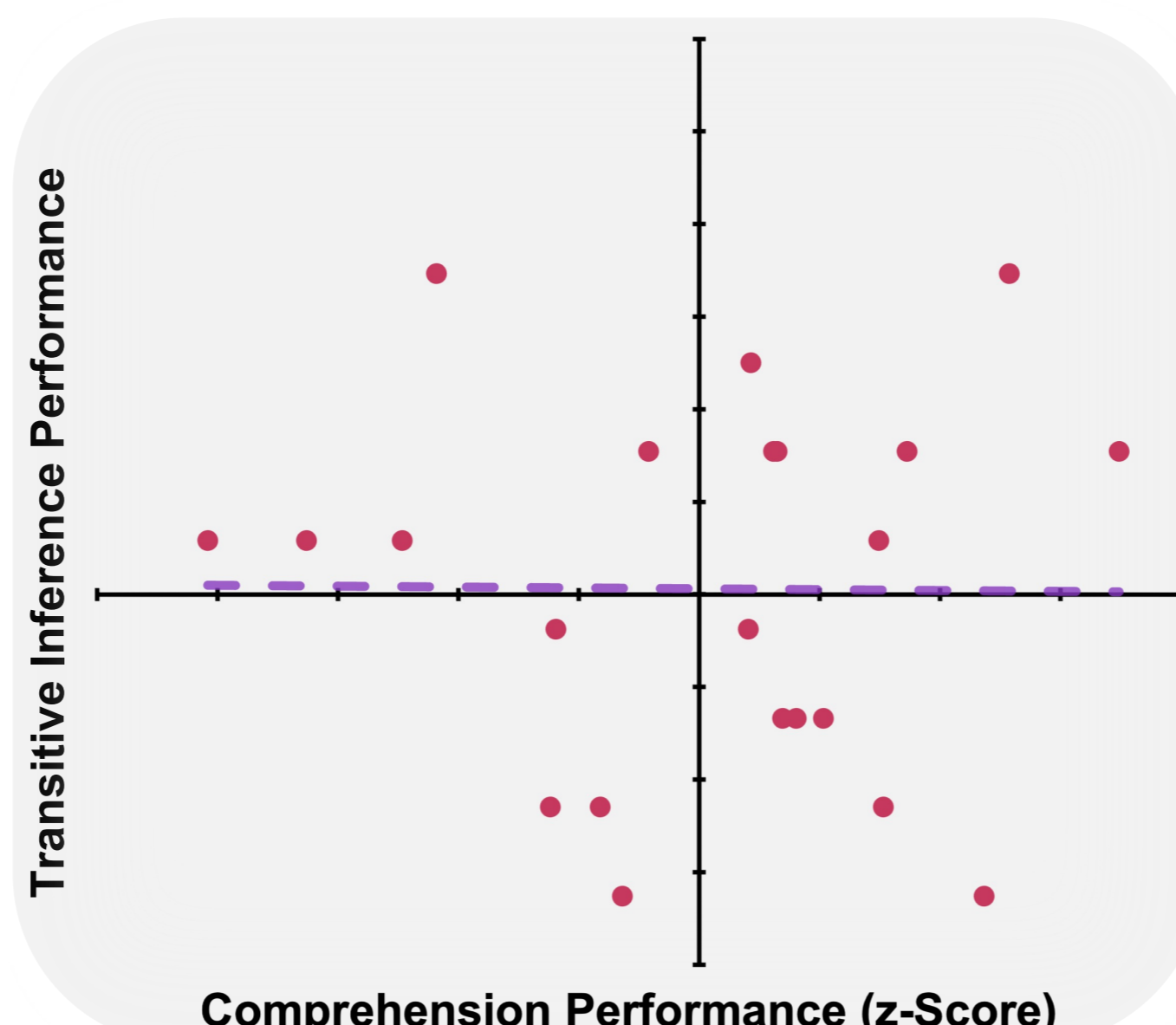
*A small crowd had gathered at the entrance of the cathedral.  
A woman in the dress that you're only supposed to wear once, was gliding up the stairs.*

What kind of ceremony was taking place at the cathedral?

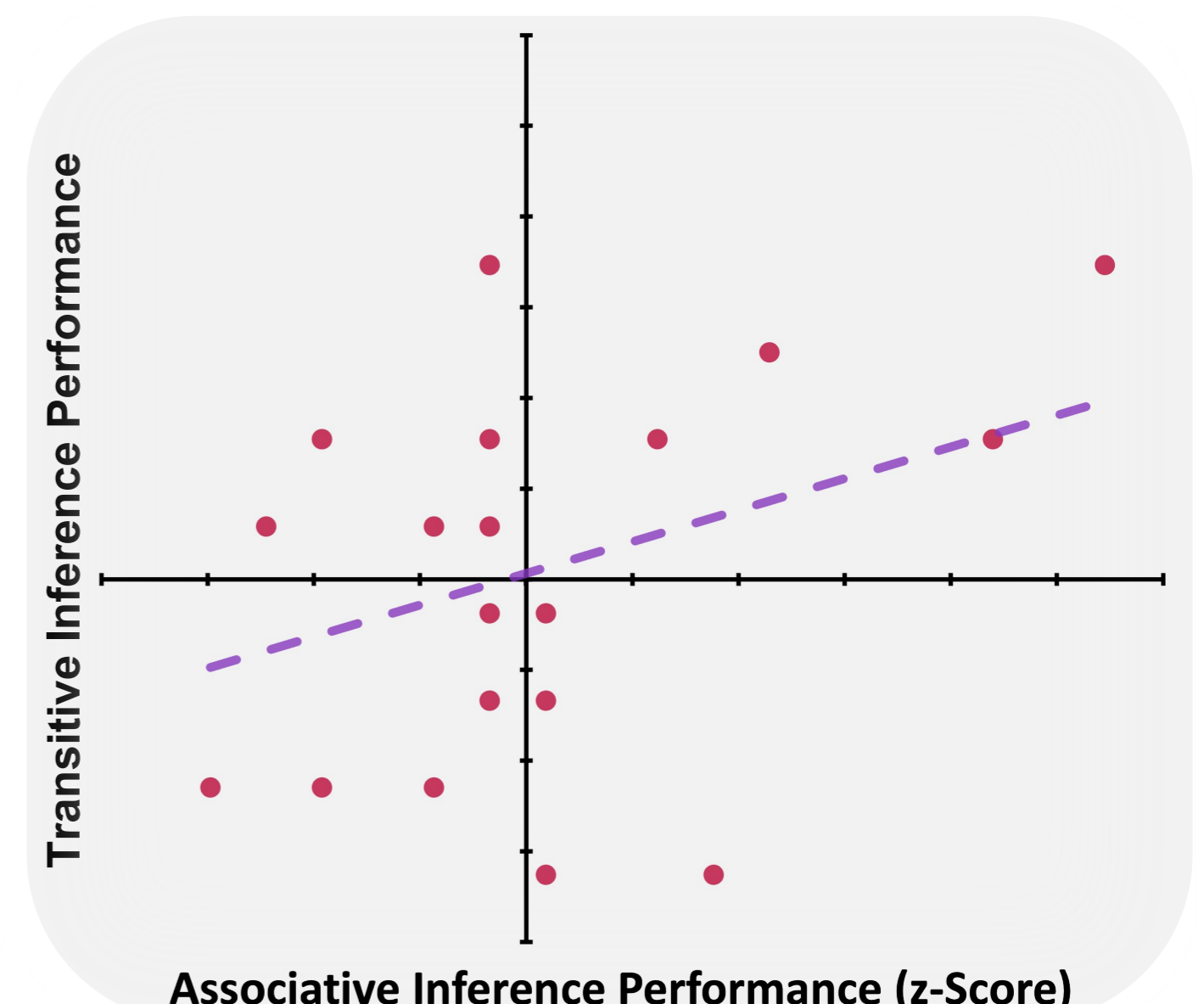
## RESULTS



There was a significant positive correlation between comprehension performance and associative inference,  $r = .47, p = .026$ .



There was no significant correlation between comprehension performance and transitive inference,  $r = -.01, p = .971, BF_{01} = 4.609$ .



There was a non-significant but positive correlation between associative inference and transitive inference,  $r = .35, p = .108$ .

## CONCLUSION

Individual differences in associative inference performance are positive correlated with language comprehension. Transitive inference does not appear to show the same relationship, even though both inferences are related. This suggests that language comprehension depends on cognitive processes that enable us to infer associations between related concepts. It is possible that training poor comprehenders to make better associative inferences may improve their comprehension skills.

### References

1. Cain, K., & Oakhill, J. (2006). Profiles of children with specific reading comprehension difficulties. *British Journal of Educational Psychology*, 76(4), 683-696.
2. Nation, K., Cocksey, J., Taylor, J. S., & Bishop, D. V. (2010). A longitudinal investigation of early reading and language skills in children with poor reading comprehension. *Journal of Child Psychology and Psychiatry*, 51(9), 1031-1039.
3. Cain, K., & Oakhill, J. V. (1999). Inference making ability and its relation to comprehension failure in young children. *Reading and Writing*, 11, 489-503.
4. Nation, K. (2005). Children's Reading Comprehension Difficulties. In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 248-265). Blackwell Publishing.