

# Can we improve comprehension of vocabulary in secondary-aged students with language impairments? Evaluating the effectiveness of therapy in a Key Stage 3 Science lesson

Sarah O'Sullivan<sup>1</sup>, Hilary Nicoll<sup>1</sup>, Susan Ebbels<sup>1,2</sup>

<sup>1</sup>Moor House School

<sup>2</sup>Division of Psychology and Language, UCL



## Background

Children with SLI frequently experience difficulties with comprehension of subject specific vocabulary (Parsons, Law & Gascoigne, 2005). However, vocabulary instruction is neither frequent nor systematic in most schools.

Previous studies suggest that the teaching of specific vocabulary within a practical teaching context can support students' learning of scientific concepts (Sim 1996;1998)

Research into comprehension and teaching of curriculum vocabulary is limited and thus, results cannot be assumed to generalise to the wider population of language impaired children.

## Methods

### Participants

Eighteen students attending a specialist school for children with Specific Language Impairment. Age: 12;3 – 13;11  
Students are from two unmatched KS3 classes (Class A and Class B)  
All students are covering the same topics in Science

### Study Design

Classes were separated into Therapy vs. Waiting Controls  
Class A received direct input from SLT in first term  
Class B received direct input from SLT in second term  
Class A are currently receiving therapy again during third term.

### Testing

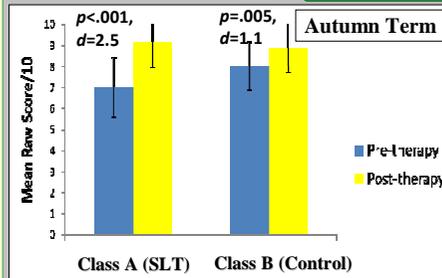
Participants were tested pre-therapy and post-therapy each term using a multiple-choice test, assessing comprehension of words within context. The target words in the Autumn Term were a mix of nouns and verbs, but solely verbs in the Spring.

## Therapy

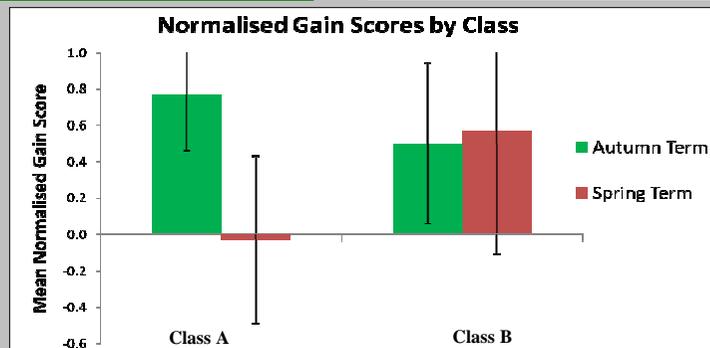
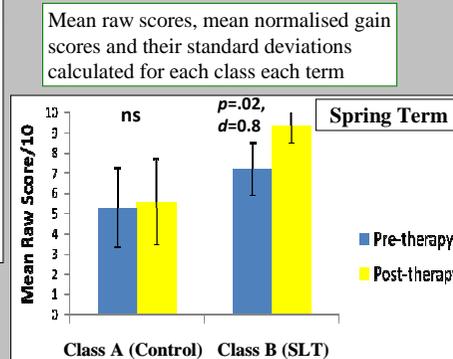
Term	Autumn '10	Spring '11	Summer '11
Target Vocabulary	nouns/verbs	verbs	verbs
Class Receiving Therapy	A	B	A
Control Class	B	A	B

- Each therapy block consisted of ten fifteen-minute sessions of classroom-based therapy led by an SLT.
- Each session focused on the comprehension of one "word of the week" central to the science lesson topic.
- Therapy consisted of an multi-faceted approach to learning to include both semantic and phonological components.
- Intervention included strategies such as direct instruction, facilitating discussion, picture/symbol construction and quiz/games.
- Students received no direct follow up work on WOW. However, this was offered for independent learning.

## Results



**Normalised gain scores:** amount of change made ÷ amount of change possible before reaching ceiling (max = 1). These were used to take ceiling effects into account.



## Summary

### Class A (Lower-ability class)

- Made significant progress in the Autumn Term when they received direct SLT intervention to develop their scientific vocabulary.
- Made no progress in Spring Term with no SLT intervention.
- Whilst unlikely, as this is known to be a lower level class, it could be that their results were affected by the change between targeting nouns and verbs to just verbs in the latter term.
- To investigate this possibility, Class A is currently receiving SLT intervention targeting 10 verbs and Class B is acting as control.

### Class B (Higher-ability class)

- Showed equal progress both terms.
- Two variables (nouns vs. verbs and SLT support vs. no SLT support) were changed between the 2 terms.
- This confounds the issue as to whether Class B actually requires any direct SLT support to make progress in Science.
- This term Class B is not receiving SLT support with verbs  
SLT support needed → no significant improvement  
Teaching alone effective → significant improvement

## Conclusions

- Results so far suggest that lower ability students benefit significantly from increased SLT support during science lessons.
- It may be that higher ability students make effective progress with the differentiated teaching of Science alone.
- More conclusive results will be available following therapy this term.

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## References

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