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

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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

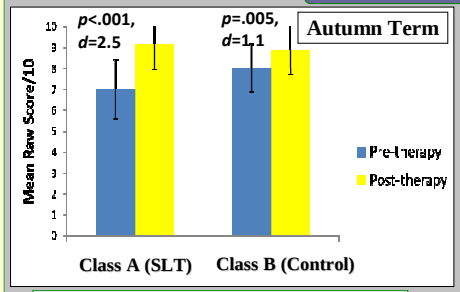
- ***Participants***
  Eighteen students attending a specialist school for children with Specific Language Impairment.
  Age: 12;3 – 13;11
  Students are from two unmatched KS3 classes (Class A and Class B)
  All students are covering the same topics in Science
- ***Study Design***
  Classes were separated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

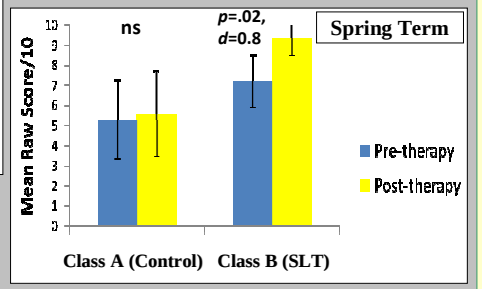
Term	Autumn '10	Spring '11	Summer '11
Target Vocabulary	nouns/verbs	verbs	verbs
Class Receiving Therapy	A	B	A
Control Class	B	A	B

•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.

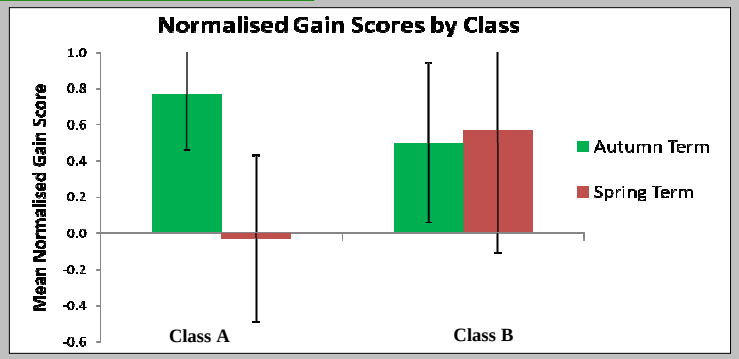
Results



Mean raw scores, mean normalised gain scores and their standard deviations calculated for each class each term



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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