

# Strathclyde Higher Order Reading Skills Project

## North Ayrshire Educational Psychology Services



As part of a Doctorate in Educational Psychology an investigation into effective reading comprehension approaches took place. The overarching aims of the project:

- To use the evidence base to inform our understanding of reading and its component skills through the critical analysis of models of reading.
- To identify evidence based reading comprehension interventions and use academic literature to critically analyse how their methods link with theory.
- To compare and contrast reading comprehension interventions on the basis of effect size, implementation cost, universality and accessibility.

This has led to the development of the project consisting of a pilot and a main study considering the effectiveness of the Strathclyde Higher Order Reading Skills (SHORS) approach. This project added to existing literature by providing a controlled study of an innovative approach to reading comprehension and found SHORS to be a high impact, short term and feasible intervention. Furthermore it extended the literature in regard to the effects of self-efficacy, intrinsic motivation, metacognitive knowledge of strategy use and intervention implementation upon reading outcomes.

### How was the research carried out?

After initial analysis of models of reading, strategy use and potential interventions, SHORS was identified as the preferable reading comprehension intervention on the basis of effect size, implementation cost, universality and accessibility. A pilot informed the main study which was a mixed-model. Training and implementation of the SHORS intervention followed the procedure of the McCartney et al. (2015) study for 8 weeks with 4 sessions of 45 minutes per week. Primary 5 classes in participating schools were randomised to either the intervention or control conditions and parents invited to consent to their child's participation with knowledge of the condition that the child will be allocated to.

### What is the SHORS approach?

#### There are 6 Core Components:

- 1) Teach children some/all of the 12 reading comprehension strategies using:
  - a) Direct teaching- provide a range of examples during initial teaching and practice through modelling, thinking aloud, application and guided practice
  - b) Keep it visual (posters anchor charts)
  - c) Use kinaesthetic hand gestures indicating the use of a strategy
  - d) Refer to strategies
  - e) Encouragement of active involvement and conscious use of strategies
- 2) Use visual organisation aids
- 3) Guide students through high focused, high quality discussion about the text
- 4) Provide interesting, appropriate and varied reading material
  - Establish an engaging motivational context and reading opportunities
  - Support vocabulary

The biggest impact was where the intervention was followed most closely with the training covering SHORS and its underpinning theory in depth.

#### The 12 reading comprehension strategies are:

- 1) **Prepare your mind-** What's this text about? What do I already know? What does the author want me to think? Do I need to have an opinion, understand facts and events or just let myself believe?
- 2) **Visualise-** If this were a film, what would I see? What would this information look like as a diagram / flowchart?
- 3) **Hear a voice reading aloud in your head-** Can intonation help me make sense? Will accents help me track who's speaking?
- 4) **Re-phrase/ Retell-** In my own words, that means..
- 5) **Summarize as you go-** What do I know so far? What don't I know yet? What do I need to know?
- 6) **Hold your thoughts as you read-** Why am I being told this now? How does this information link together? What am I assuming that isn't in the text?
- 7) **Question-** Does this seem likely? Does this 'ring true'? Do I understand all of this?
- 8) **If you don't understand: Stop. Re-read.**
- 9) **If you STILL don't understand-** find the problem word. Does it remind me of other words or parts of words? Can I guess a bit from the context? Who can I ask? If not, **LOOK IT UP**
- 10) **Link to wider experiences-** How does this relate to what I already know? What I have read? What I have done? What was new to me? Would I react in the same way?
- 11) **Think about the 'crunch' points-** At what point(s) could this have gone a different way?
- 12) **Wonder to yourself-** What could happen in a different context? Why might this person / group behave like this?

# Impact.



## Quantitative Information

Comparison of pre and post WIAT II reading comprehension tests showed a medium to large effect size of 0.81. The results are statistically significant and larger than measurement error would allow for.

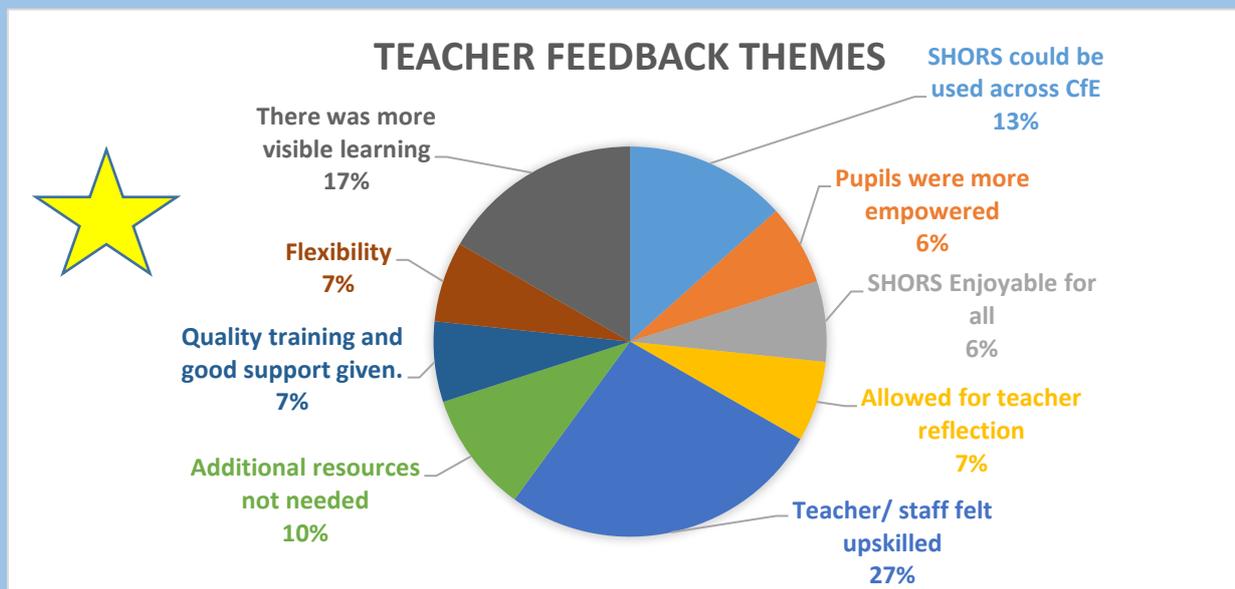
The more closely a teacher implemented the intervention with its core components the bigger the impact.

The intervention indicated equal benefits to low/average/high ability children. It therefore appears to be a 'universal' intervention which can raise attainment for all.

Children in the SHORS intervention group reported a greater increase in the recognition of strategy use than the control group. That is, they were more aware of metacognitive strategies and reported that they were more likely to use them.

Although not a primary measure decoding for the intervention group increased more than the control group.

## Qualitative information



## **Conclusions**

This project has determined the potential of SHORS as an intensive, high impact, short term and feasible intervention. It has extended the literature in regard to the effects of self-efficacy, intrinsic motivation, metacognitive knowledge of strategy use and intervention implementation upon reading outcomes. Furthermore it takes account of the interactive variables of learner, teacher and learning environment.

## **Further Reading**

James-Burdumy, S. (2009). Effectiveness of Selected Supplemental Reading Comprehension Interventions: Impacts on a First Cohort of Fifth-Grade Students (Vol. 43539): Mathematica Policy Research.

Moir, T. Boyle, J. Woolfson, L.M. (2016) Developing higher-order reading skills in mainstream primary schools: a metacognitive approach- a study protocol Educational Psychology in Scotland Vol 17 No 2

McCartney, E., Boyle, J., & Ellis, S. (2015). Developing a Universal Reading Comprehension Intervention for Mainstream Primary Schools within Areas of Social Deprivation for Children with and without Language-Learning Impairment: A Feasibility Study. International Journal of Language & Communication Disorders, 50(1), 129-135.

Shanahan, T., Callison, K., Carriere, C., Duke, N., Pearson, D., Schatschneider, C., & Torgesen, J. (2010). Improving Reading Comprehension in Kindergarten through 3rd Grade: IES Practice Guide. NCEE 2010-4038.