The Laughing PC
Using Jokes in Software to Improve Children’s Reading Comprehension

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& thanks to all the children and teachers who took part in the research.
Overview

- Background: factors in reading comprehension
- Poor comprehension: its impact
- Language play, language awareness and discussion
- Program 1: Joke City -- intervention
  Evidence for effectiveness
- Program 2: Bahlas -- assessment
  Evidence
- Program 3: WordCat: coordinating sound and meaning
  Using two mice and Scoss to encourage true collaborative working with peers
- Questions and comments
Factors in poor reading comprehension

• Poor working memory: simultaneous storage and processing e.g. mental arithmetic
• Poor inferential skill

  John took 5 books. How many books?
  John pedalled over the bridge. How did John travel?

• Poor ‘language awareness’: distinguishing form and meaning, knowing how you know
• (poor decoding)
Poor reading comprehension

- 15% of 580 7-9yr olds had comprehension ages 6-24mo below their reading age

Neale Analysis of Reading Ability

Read each story aloud, answer questions at the end

Accuracy Age: reading errors
Comprehension Age: questions
Importance of comprehension assessment and intervention

- Comprehension covers many different skills
- Comprehension sometimes under-resourced and under-assessed
- Assessment often individual, so lengthy
- Comprehension generally not formally assessed independent of decoding problems
- Comprehension in SATs increasingly tests retrieval of literal information (Hilton, 2001)
- Comprehension problems often hard to spot in everyday conversation
- Comprehension needs to be learned (developed), not just taught
Joke City

- Teachers use jokes and riddles to develop literacy skills
- Joke workshops for years 3-6 (popular with boys, performance aspects)
- Articulating meanings for yourself and negotiating meaning with a peer: not taught but developed
- Language ambiguity highlights focus on meaning and relation of meaning to surface form
Language play, awareness, discussion

Homonyms, intonation patterns, syntactic ambiguity

• Why do cows have bells?
  Because their horns don't work.

• Why don't leopards escape from the zoo?
  Because they are always spotted.

• Did you hear about the paper shop?
  It blew away.

• Does this restaurant serve fish?
  Yes, what do you want, Mr Fish?
Joke City

- Pairs of children (7-9 yrs) engage with Joke City
- Series of jokes (6 jokes x 6 levels)
- One child reads, the other has the mouse
- Read the joke, click on the word with two meanings
- Does this restaurant serve fish?
- Yes, what do you want to eat, Mr Fish?
- Clues and explanations provided
- video
Does JC help comprehension?

• Design

- Pre-test Neale
- 12 pairs 7-9 yrs 3 JC sessions
- Control: 12 children normal classes
- Post-test Neale
Joke City improves children’s reading comprehension: pre- to post-changes in accuracy and comprehension scores (months) after 3 sessions of JC in pairs
How does JC work?

- Analyse all conversations by classifying each statement
- Differences between pairs that improved and pairs that didn’t
- Improving pairs changed over sessions: developed the skills through interaction
Types of talk

Session 1
Metacognitive Metalinguistic Control Reading text

N utterances of each type for high, no and mixed improvers per session
Joke City version 2

- Prototype version, partial
- (screen shot of front page?)
- Structure: Joke Junior and Joke Junior High (pic of pat’s screen?)
- Feedback welcome!
BAHLAS Riddles

- Riddle understanding predicts comprehension
- Can use riddles to assess comprehension
- BAHLAS (Brighton and Hove Literacy Assessment Strategy)
- List of advantages…
- Self-admin, predicts, no reading skill, fun, easy to use, well-tested –over 500 children
- Need feedback on teacher information
Riddles

• 2 parallel sets of 25 joking riddles
• Jokes all rest on ambiguity in meaning
• Child chooses one of two answers, that makes the joke work
• Different types (single word ambiguity, syntactic, pragmatic..)

• Why do leopards never escape from the zoo?
  -- Because they’re always spotted
  -- Because they run too slowly

What happened to the paper shop?
-- It closed down
-- It blew away
Bahlas

- Predicts comprehension independent of accuracy
- Statistics work, but needs field testing: volunteers welcome, support and analysis provided free
- Also ‘complete: predicts grammatical understanding, as in Test for Reception of Grammar (TROG) slide
TROG (Bishop)
80 sentences
Complete predicts TROG score....

“The boy is chasing the sheep.”
‘Simple’ view of reading

- Reading = decoding & comprehension
- Initial focus on meaning
- Shift to focus on form
- Coordinating form with meaning:
  ‘putting humpty back together’ (Tunmer & Bowey, 1984)
Word Categorisation

• Cartwright: Reading multiple classification task

Example
• Predicts comprehension skill independently of …
• Individual training to do the task improves comprehension in n yr olds
• Could peer discussion of the task help comprehension?
WordCat

• Picture of task (single)

• Teachers can put in own word lists
e.g. to focus on a particular spelling or sound pattern, or
classification of meanings

• Clues appear automatically for new lists
CD clip

Problem: domination by one child
Sort these words into the boxes two ways at the same time. cheek chip tongue chocolate tomato chest tooth cheese toast toffee toe chin

RMC score = accuracy score for sorting speed of sorting

Accuracy score: 3 = sort / explanation /
2 = sort x explanation /
1 = sort / explanation x
0 = sort x explanation x
WordCat with SCOSS
WordCat with SCOSS

• Diagram
• Each child has their own representation, so acts on it individually but
• The two representations are linked: agreement and disagreement are visible
• At specific points, children need to reach an agreement: through debate, not by hogging the mouse!
Conclusions

• Joke City, Bahlas and WordCat
• Set of linked assessment and intervention tools for literacy skills
  - easy for child to use
  - independent of decoding: text read aloud
  - automatic scoring and comparison
  - password protected
  - quick to do: can be group-administered in IT suite
• Encourage peer discussion
• Needs some teacher oversight
• Need feedback!
• See Nicola for CDs, manuals, articles to take away and chances to take part