Phonological awareness development during the early years

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Early Reading Success
• Academic achievement
• Later reading success
• Positive contribution to society
• Strong self esteem
• Self identity
• Positive influence on children’s early reading
• Personal, cultural, economic success

Some Challenges for NZ
PIRLS (Progress in International Reading Literacy Study)
• Wide range between good and poor readers
• Greater difference between girls and boys with lower reading abilities
• Little improvement in performance since 2001
• Maori boys academic underachievement
• Low socio economic underachievement in reading

PIRLS report at http://www.educationcounts.govt.nz/publications/series/2539/pirls_0506/16400

New Zealand: Unique strengths and knowledge in literacy

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre (6;6)</th>
<th>Post (6;11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>rain</td>
<td>r</td>
<td>ran</td>
</tr>
<tr>
<td>kangaroo</td>
<td>cau</td>
<td>kangwoo</td>
</tr>
<tr>
<td>shark</td>
<td>c</td>
<td>shak</td>
</tr>
<tr>
<td>dinosaur</td>
<td>danc</td>
<td>dinshor</td>
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<tr>
<td>teeth</td>
<td>tc</td>
<td>tef</td>
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<td>fish</td>
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<tr>
<td>bridge</td>
<td>qanenelc</td>
<td>bish</td>
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<tr>
<td>cake</td>
<td>ddenice</td>
<td>kak</td>
</tr>
</tbody>
</table>

Items not directly trained in intervention
Phonological awareness is a powerful predictor of reading success (see Gillon, 2004)

Research Findings

"Children who are better at detecting and manipulating syllables, rhymes, or phonemes are quicker to learn to read.

This relation is present even after variability in reading skill due to factors such as IQ, receptive vocabulary, memory skills, and social class is partialed out."

(Lonigan et al., 1998)

He aha te māramatanga weteora?

What is phonological awareness and how does it develop?

Phonological awareness develops along a continuum

<table>
<thead>
<tr>
<th>Syllable Awareness</th>
<th>Onset-rime Awareness</th>
<th>Phoneme Awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larger sound units</td>
<td>Smaller sound units</td>
<td></td>
</tr>
</tbody>
</table>

Strong acoustic energy in syllables

Example: baby

Real time spectogram of the word baby spoken (Gillon, 2004)
Syllable awareness

Syllable segmentation

kiwi: ki wi

Onset-rime Awareness

Rhyme oddity

Early Phoneme awareness

Phoneme matching

Initial phoneme identity

haka starts with a /h/ sound
Phoneme (sound) segmentation

Listen to the word lamb:
Lamb has 3 sounds
/l... a...m/

Phoneme manipulation:
Spoonerisms
Can Darter 丹·卡特
Tom Cruise 汤姆·克鲁斯
Com Truise

Phonological Awareness development over time

Lonigan et al’s research (1998)
American Children

- 258 preschoolers (2-5 years) middle to upper income
- 118 preschoolers (2-5 years) low income

Recruited via child care centres

<table>
<thead>
<tr>
<th>Middle-income sample</th>
<th>Blending</th>
<th>Rhyme Oddity</th>
<th>Alliteration Oddity</th>
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</thead>
<tbody>
<tr>
<td>2-year-olds</td>
<td>8.6</td>
<td>25.7</td>
<td>0.0</td>
</tr>
<tr>
<td>3-year-olds</td>
<td>25.0</td>
<td>14.3</td>
<td>8.9</td>
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<tr>
<td>4-year-olds</td>
<td>69.5</td>
<td>39.0</td>
<td>34.1</td>
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<tr>
<td>5-year-olds</td>
<td>89.2</td>
<td>75.4</td>
<td>49.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower-income sample</th>
<th>Blending</th>
<th>Rhyme Oddity</th>
<th>Alliteration Oddity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-year-olds</td>
<td>0.0</td>
<td>25.0</td>
<td>5.0</td>
</tr>
<tr>
<td>3-year-olds</td>
<td>6.7</td>
<td>13.3</td>
<td>8.9</td>
</tr>
<tr>
<td>4-year-olds</td>
<td>13.2</td>
<td>36.8</td>
<td>10.5</td>
</tr>
<tr>
<td>5-year-olds</td>
<td>13.3</td>
<td>20.0</td>
<td>13.3</td>
</tr>
</tbody>
</table>

Lonigan et al 1998

Variable PA performance
Syllable and onset-rime awareness
Emerging early phoneme awareness (phoneme ID)
Emerging later phoneme awareness
Segmenting, blending, simple manipulation and deletion
Complex manipulations (e.g., spoonerisms)

Lonigan et al 1998
What influences phonological awareness development in children with “typical development”

- Vocabulary development
- Phonological representations (e.g., speech disorder)
- Knowledge of nursery rhymes
- Letter knowledge
- Home literacy environment
- Early reading instruction
- Learning to spell

Key factors

Phonological awareness
Letter-sound knowledge
Reading Success
Strong spoken language development

Longitudinal research study
Children with speech disorder

Speech and literacy development monitored from 3 - 8 years

(Gillon, 2005, Kirk & Gillon, 2007)

Research questions

Can phoneme awareness be stimulated in 3- and 4-year old children with speech disorder?

Will such intervention enhance these children’s reading and spelling development in Year 1 and 2 at school?

Characteristics of children with speech impairment

Experimental Group
- 9 boys and 3 girls
- Aged between 3-4 years at first assessment.
- Monolingual New Zealand English
- Moderate to severe speech disorder

Control group of 12 children with speech disorder who received typical speech therapy

Experimental Intervention

- Mean = 25 hours of intervention
- Two 45 minute sessions weekly
- School entry

6-8 weeks
6-8 weeks
6-8 weeks required
Intervention Aims

1. Improve speech intelligibility
2. Facilitate phoneme awareness
   - Initial phoneme identity,
   - Phoneme categorization,
   - Phoneme matching,
3. Teach letter name and letter sound knowledge

phoneme identity

C

s m

star moon
Video clips

Intervention for 3-4 year old children in longitudinal study

Study Details

See Gillon, 2005 for group result details

Child A: Received PA intervention:
Speech production measure

Child A

Reading performance 8 years (N = 10 per group)

Number of Children

Well below average
Below average
Average
Above average
Well above average

Word recognition ability (Burt)
School Entry Child A

- Phonological awareness within normal limits on std test (Preschool and Primary Inventory of Phonological Awareness)
- Letter name knowledge and letter sound knowledge established
- At 12 months after school entry word recognition skills well above average
- CA: 6;4, RA: 8;03 – 8;09 level Burt Word Recognition Test

Home/child care activities

- Nursery rhymes
- Completing rhyming lines
- Rhyming picture cards – “Snap when words rhyme.”
- Alphabetic puzzles/posters
- Vocabulary building
- Reading/writing experiences

Shared book reading

- Actively bring children’s attention to print in books

Print Referencing Prompt Sheet

This is the letter s. It makes the sss sound. SSS is the first sound in Spot.

This is the letter p. It makes the /p/ sound. /p/ is the last sound in cup.

Video Clip

Children with Down Syndrome
- Van Bysterveldt, Gillon & Foster-Cohen (paper submitted)
Phoneme awareness

- Sorting toys or pictures that start with the same sound.

Letter-sound board: speech target /st/ (Gillon & McNeil, 2007)

Gillon PAT Programme
Focus: phoneme level
Phoneme Segmentation & Blending
spoken and written link made explicit
Tracking sound changes

Phonological Awareness Intervention

Gillon PAT Programme: Segmentation and Blending

Show me shop

shop
Sheep, the middle sound changed
If that spells shop show me sheep
Sheep, the middle sound changed
If that spells sheep show me sheet
Sheet, the last sound changed

Early School Years
• Incorporate PA into everyday curriculum
  – Morning news
  – Handwriting, joint book reading
  – Language theme
• Create an explicit link between phonemes and letter/s for the child

General Principles
• Phoneme level is the most important level; use when developmentally appropriate
• Incorporate with letter-sound work

Resources
• Gillon web page under phonological resources
• Gillon and Moriarty (preschool children older children with cognitive impairment or severe speech disorder)
• Gillon phonological awareness training programme 5-7 year old children

www.education.canterbury.ac.nz/people/gillon/resources.shtml

Reading and Writing Success!
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References


References continued


