A Better Start

The effectiveness of phonological awareness instruction to enhance early literacy success for young children most at risk.

Presenter: Prof Gail Gillon, PhD, ASHA Fellow
College of Education Health and Human Development
University of Canterbury, Christchurch NEW ZEALAND

Gillon, Nov. 2017 ASHA Convention Los Angeles, Invited Session
Disclosure Statement

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Published work I have authored, including a book, is referenced in the presentation Gillon GT. (Dec. 2017) Phonological Awareness: From Research to Practice (Second Edition) New York: Guilford Press

I have no other financial or non-financial relationships with any materials described or used in this presentation.
Website

http://www.canterbury.ac.nz/education/research/phonological-awareness-resources/

Google: Gail Gillon Phonological Awareness
A Better Start

... to literacy and learning.

A project within a National Science Challenge

Gail Gillon, Brigid McNeill, Amy Scott,, Amanda Denston, Leanne Wilson, Karyn Carson and Angus Macfarlane

University of Canterbury, New Zealand
Our children are our future. We want to give them the best possible start in life.

Getting a good start includes being a healthy weight, learning successfully and being mentally well.

Our mission is to find better ways to predict, prevent and treat obesity, literacy and mental health problems in children.

Our job is to make science work for people.

We believe we can do that only when we work with communities, and draw together Indigenous and Western approaches to science.

Challenge Director: Prof Wayne Cutfield. Co Directors: Prof Gail Gillon & Prof Barry Taylor

The International Literacy Challenge
(Data from PIRLS, 2011)

Reduce inequalities between high and low performing readers
Raise literacy achievement for:
1. Children from minority and indigenous populations
2. Children from low SES areas
3. Children with disability
4. Boys
Current Challenge NZ
Percentage of school children achieving at or above national standard level for reading

<table>
<thead>
<tr>
<th>Year</th>
<th>End of first year</th>
<th>After 2 years</th>
<th>After 8 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>65%</td>
<td>79.9</td>
<td>77.3</td>
</tr>
<tr>
<td>2014</td>
<td>64.5</td>
<td>79.1</td>
<td>77.6</td>
</tr>
<tr>
<td>2015</td>
<td>63.6</td>
<td>78.1</td>
<td>78.3</td>
</tr>
<tr>
<td>2016</td>
<td>62.0</td>
<td>77.2</td>
<td>78.2</td>
</tr>
</tbody>
</table>
Percentage of children achieving at or above national standards in 2016

Proportion of students (%)

- Māori
- Pasifika
- Asian
- European/Pākehā
- Total

- Reading
- Mathematics
- Writing
USA: National Assessment of Education Progress (NAEP) Grade 4

Measures: Reading comprehension of literary and information texts

Participants in 2015: 139,100 fourth-graders from 7,810 schools
Nationally representative samples of students

Source for data slides: US Department of Education, NAEP 2015
USA National Reading Data Grade 4
Percentage at or above basic level of reading proficiency

Year | At or above Basic | At or above Basic | At or above Proficient | At or above Advanced
--- | --- | --- | --- | ---
2015 | 31 | 69 | 36 | 9
2013 | 32 | 68 | 35 | 8
2011 | 33 | 67 | 34 | 8

NOTE: Detail may not sum to totals because of rounding. Some apparent differences between estimates may not be statistically significant.
Average scaled score for Grade 4 reading by race/ethnicity

Source for data slides: US Department of Education, NAEP 2013
Hypothesis:
*Culturally-responsive* interventions that blend *evidenced-based* and *contextually-relevant education and health practices* will lead to more successful early literacy, language learning and health outcomes for children entering school with *known challenges to their learning.*
A series of four inter-related studies

**Study 1**
Predicting early literacy success (Big Data)

**Study 2**
Intervention studies: 4 and 5 year olds

**Study 3**
Emerging bilinguals in our digital world

**Study 4**
Children with developmental disabilities

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A strengths based approach - a move away from deficit models

Deficit thinking

A focus on what is wrong with the child, family or community and what needs “fixing”

Strengths based

A focus on what will facilitate success and build positive relationships with child, family and community

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Facilitating early literacy success for preschool children with lower levels of oral language ability and speech difficulties.

- Children more advantaged
- Higher socio economic status
- Employment success

Strong foundational oral language skills lead to:
- Early reading and writing success
- Later literacy success
- Higher Educational achievement
- Higher socio economic status
- Employment success

Link to children’s healthy wellbeing, their language culture and identity.

Child and family focused: Culturally responsive and evidenced based practices in a digital world.
Component Model of Reading
(Aaron, Joshi, Gooden & Bentum, 2008)

Domain 1
- Cognitive
  - Word recognition
  - Comprehension

Domain 2
- Psychological
  - Motivation
  - Self perception
  - Teacher Expectations
  - Learning styles

Domain 3
- Ecological
  - Home and school environment
  - Cultural context
  - Linguistic context (ESL)

Strengths or positive indicators in all three domains are necessary for early literacy success

Important cognitive skills in learning to read

1. Letter-sound knowledge
2. Phoneme awareness
3. Rapid automatised naming skills

(Hulme and Snowling, 2013)

Hulme, C., & Snowling, M. J. (2013). Learning to Read: What We Know and What We Need to Understand Better. Child Development Perspectives, 7(1), 1-5
Canterbury, New Zealand

Landscape of Braided rivers
A “Braided Rivers Approach”  
(Gillon & Macfarlane, 2017) 
Integrating domains that influence children’s early reading development

Braided Rivers Approach

Family and community engagement
Quality Instruction Collaborative practices
Expect Success Healthy self perception

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Example of integrating goals across domains: Aim to improve speech intelligibility and to develop children’s phoneme awareness (PA) to contribute to early reading and spelling success.

Family engagement:
Develop parents’ skills to share culturally relevant stories with their child and to use story books to develop child’s PA, speech goals and letter knowledge.

Quality Literacy Instruction
Explicit PA instruction within preschool/class programme supplemented with small group intervention integrating PA and speech goals (Teacher and SLP working collaboratively).

Expect Success
Provide quality feedback and encourage learning attempts; scaffold PA and speech tasks to create successful learning experiences.
Key factors
National reading panel report

Phonological awareness
Letter-sound knowledge
Phonics
Comprehension Strategies
Vocabulary development
Fluency Reading practice

Reading Success

Class instruction for 5 year old children including those with lower levels of oral language, PA, and vocab knowledge

Video Demonstrations

Class PA Activities- *phoneme identity, phoneme segmentation, phoneme blending and transfer skills to reading and spelling*

Vocabulary Extension Shared book activity: *definition and expansion techniques*

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Interest in phonological awareness (PA) development in preschool children

1970s
Early interest in PA and instructional materials developed commercially

1980s
Research suggesting causal relationship between PA and reading development
Interest in relevance for spelling development
Theoretical basis of PA importance

1990s
Rapid growth in PA Intervention research
Growth in commercial PA assessment and instructional materials

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Interest in PA for preschool children

2000s
- Meta-analyses
- Benefits of PA instruction for specific populations
- Principles of effective practices in PA instruction
- Web based resources

2010s
- Increased research in PA in languages other than English
- Integrated approaches that include PA
- Culturally responsive practices
- Methodological critique

2020s?
- Culturally responsive approaches
- System-wide change
- Implementation
- Science

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Development of phonological awareness

USA Study Example: Lonigan et al. (1998)

- 258 preschoolers (2-5 years) middle to upper income (52% Female)
- 118 preschoolers (2-5 years) low income (47% female)
- Participant recruited via child care centres

Syllable awareness

Percentage of group above chance level

[Graph showing the percentage of low income and middle income groups above chance level from 2 to 5 years.]

- Low Income
- Middle Income
Rhyme oddity

Percentage of group above chance level

Low Income
Middle Income

2 yrs 3yrs 4yrs 5 yrs

0 10 20 30 40 50 60 70 80 90 100
Initial phoneme identity (alliteration oddity - which one starts with a different sound)

Percentage of group above chance level

- Low Income
- Middle Income
Infancy to preschool

- Shared book reading with babies
- Bringing toddlers attention to print and sounds in words, building vocabulary
- Specific PA and vocab instructional activities -linked to quality storybooks
Effectiveness of early storybook reading for promoting language and social communication skills with babies and young children with and without a hearing loss

Michelle Brown PhD Candidate
Griffith University

Supervisors
Marleen Westerveld
David Trembath
Gail Gillon
Current studies- parent workshops re shared book reading

Supporting parents/families in challenging circumstances (post earthquake and low SES) to enhance early phonological awareness and vocabulary skills in 4-year old children

Better Start Project: Schaughency, Reese, Riordan, Derby, Wilson, Gillon et al (2017) work in progress
Shared book reading - Parent workshop content

Reading with babies
• Book selection
• Set up - establish routines
• Early communication skills
• Language Interaction strategies

Reading with pre-schoolers
• Book selection
• Attention to print and initial sounds in words
• Vocabulary extension - definition and elaboration techniques
Schaughency et al (2017)
Video demonstrations

*Parent reading with toddler- observe strengths and areas to discuss in parent workshop to enhance opportunities*

*Preschool teacher demonstrating techniques re print and initial sound awareness during shared book reading*
Engaging families in shared book reading workshops—Strategies we found effective to gain attendance in low SES areas

• Build trust— we took time to build relationships in community ("known face, seen face, friendly face")
• Offer parent workshops in a community centre known to families
• Engage community leaders to support and promote workshops—church leaders, community leaders, early childcare leaders (who spoke family home language)
• Provide food at workshops to bring parents together
• Offer child minding in community centres while parents attend workshops
• Offer workshops at different times of the day/ early evening to suit working families
• Offer a gift for attending workshop—child story book

Schaughency Reese, Riordan, Derby, Wilson & Gillon (2017)
Better Start national Science Challenge Preschool project
Infancy to preschool

Shared book reading with babies

Bringing toddlers attention to print and sounds in words, building vocabulary

Specific PA and Vocab instructional activities - linked to quality storybooks
Response to intervention framework

- **Tier 1**: Class PA and vocab instruction
- **Tier 2**: Small group instruction (n=5 per group)
- **Tier 3**: Individual or in pairs
Co-constructing intervention with community leaders and class teachers

Braiding ideas and solving problems together

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A model for change

Hiatt, J, 2006
Prosci Learning Centre

Awareness of the need for change
Desire to support and participate in change
Knowledge of how to change
Ability to implement required skills and behavior
Reinforcement to sustain the change
Co-construction with community leaders and class teachers

**Awareness**
- Community meetings
  - Strengths based model
  - Community aspirations

**Desire**
- Workshops with Teachers
  - Research evidence
  - Planning together

**Knowledge**
- Web based PLD + workshop
  - Principles of PA instruction
  - Sharing knowledge

**Ability**
- Resources
  - Lesson plans/materials
  - Modelling
  - Two way feedback

**Reinforcement**
- Celebrate
  - Share results
  - Recognition
  - Community celebration

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Better Start Literacy Study Participants
(Aged 5;0 – 5;11)

268 initial assessments
across 7 schools

170 eligible for comprehensive assessment

144 pre-post datasets

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Initial Assessment

- Phonological Awareness
  - Initial Phoneme Identity task – online task (Carson, Boustead & Gillon, 2013)
- Language
  - Clinical Evaluation of Language Fundamentals-Preschool 2 Australia/NZ version
    - Recalling Sentences subtest
    - Expressive Vocabulary subtest

*Qualified SLTs completed all screening and comprehensive assessments*
## Comprehensive Assessment Protocol

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressive vocabulary probe (words selected from intervention storybooks)</td>
<td>Receptive vocabulary probe (words selected from intervention storybooks)</td>
<td>PAAT: Blending, Segmenting, Letter-sound knowledge</td>
</tr>
<tr>
<td>Letter name fluency (DIBELs)</td>
<td>Non-word reading task</td>
<td>Name writing task</td>
</tr>
<tr>
<td>CELF-P2: Sentence Structure</td>
<td>Story retell task</td>
<td>Psychosocial task (children’s perceptions of their academic skills)</td>
</tr>
</tbody>
</table>
Oral Language ability (CELF) at baseline for the research cohort (n=144)

<table>
<thead>
<tr>
<th>CELF Assessment</th>
<th>Mean</th>
<th>Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Structure scaled score*</td>
<td>7.51</td>
<td>3.47</td>
</tr>
<tr>
<td>Sentence Structure scaled score*</td>
<td>7.44</td>
<td>3.20</td>
</tr>
<tr>
<td>Expressive Vocabulary scaled score*</td>
<td>6.72</td>
<td>2.56</td>
</tr>
<tr>
<td>Recalling sentences scaled score*</td>
<td>6.01</td>
<td>2.83</td>
</tr>
<tr>
<td>CELF Core Language Index**</td>
<td>82.37</td>
<td>16.32</td>
</tr>
</tbody>
</table>

* : expected performance for a child’s age is a standard score between 7-13
** : expected performance for a child’s age is composite score between 85-100
Delayed Treatment Study Design: Assessment data collected end of each school term (10 weekly intervals)

**Strand A**
*(n=71) across 3 schools*

- Term 1: Usual
- Term 2: PA Tier 1
- Term 3: PA Tier 2
- Term 4: Usual

**Strand B**
*(n=73) across 4 schools*

- Term 1: Usual
- Term 2: Usual
- Term 3: PA Tier 1
- Term 4: PA Tier 2
Evidence-based phonological awareness teaching

Evidence-based vocabulary teaching

Co-constructed

Culturally responsive

Providing contexts for learning where the language, identity and culture of Māori and Pasifika learners and their family is affirmed.
Intervention Framework

• 10 weeks in length (1 school term)
• 30 minute lessons conducted by teacher 4 times per week
• Integrates PA and vocabulary instruction
• Lessons are centred around one storybook per week
• Three lessons per week are provided and 1 lesson per week planned by teacher
• Final two weeks are planned by the teacher
• Teachers provided feedback after each session using online website tool (tasks completed, student engagement/enjoyment)
Principles of Phoneme Awareness Activities

• Focus at the phoneme level
• Integrate PA and letter-sound knowledge
• Use explicit teaching techniques
• Ensure there is sufficient practice of each skill in game activities
• Integrate activities to transfer knowledge to reading and spelling
• Scaffold activities to ensure children’s success
• Provide quality feedback on learning attempts
Game Activities

A variety of games that actively engaged children in the task
-children moving around a space, finding objects, working in pairs, taking turns to come up to a white board, clapping out sounds, moving blocks or counters, playing bingo games, sorting cards.....
Initial phoneme sorting example

Each child has a card
They
- name the picture
- say the initial sound
- Put the card with the grapheme
Cards with large clear print

Find the cards that start with a /k/ sound

- can
- car
Choose between letters and sounds that are visually distinct and phonologically distinct.
star
moon
Principles of Vocabulary tasks

- Selected unfamiliar words in story (Tier 2 words).
- Elaborated strategy- provide a definition of target word and use in a sentence during reading of a story (4-5 elaborated words chosen per story).
- Repeated elaboration of target words.

Phonological Awareness Professional Learning Modules for Teachers
web based with video demonstrations

• Module 1: Introduction to Phonological Awareness (PA)
• Module 2: The Importance of PA to Reading and Spelling
• Module 3: PA in Diverse Populations of Children
• Module 4: PA Assessment
• Module 5: PA Instruction

New York Guilford Press.
<table>
<thead>
<tr>
<th>Week</th>
<th>Book</th>
<th>Target Sounds</th>
<th>Level 1 Focus</th>
<th>Level 2 Focus</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kakapo Dance</td>
<td>b</td>
<td>Initial Phoneme Identity Blend/Segment</td>
<td>Initial Phoneme Identity Blend/Segment</td>
<td>Coo shriek waddle shuffle shuffle whanau(family)</td>
</tr>
<tr>
<td>2</td>
<td>Down in the Forest</td>
<td>s s blends</td>
<td>Initial Phoneme Identity Blend/Segment</td>
<td>Initial Phoneme Identity Blend/Segment Manipulation</td>
<td>shelter dash squirm spy</td>
</tr>
<tr>
<td>3</td>
<td>Grrrrr!</td>
<td>g/gr t/tr</td>
<td>Initial Phoneme Identity Blend/Segment</td>
<td>Initial Phoneme Identity Blend/Segment Manipulation</td>
<td>Aroha(love) brilliant guilty lonely</td>
</tr>
</tbody>
</table>
Lesson Structure: 4 sessions per week

**Storybook and vocabulary elaboration**
- Lesson 1 & 3: Read the storybook and elaborate target vocab words
- Lesson 2 & 4: Summarize storybook and elaborate target words

**Focus on PA skill building Each session**
- One phoneme identity task
- One phoneme blending task
- One phoneme segmentation task
- One phoneme manipulation task

**Integrate PA into reading and spelling Each session**
- At least one activity that integrates PA into reading and/or spelling
- Suggestions for integrating PA into big book reading
Video Demonstrations

• Further video demonstration of phonological awareness tasks
  phoneme identity
• Phoneme segmentation and blending games
• Supporting child with Down syndrome
Presentation of Preliminary Results from Tier 1 Class intervention

Series of graphs presented illustrating research findings to date
Results Summary

Significant Treatment Effects found for

• Phoneme segmentation
• Non word reading (transfer to print skills)
• Letter Fluency
• Expressive Vocabulary

Nonsignificant treatment effect found for

• Initial phoneme identity and receptive vocabulary
Key Findings

• 45% of the children with lower oral language skills do not require any further specific support at this stage following the class intervention- 55% have entered Tier 2 level support

• Phoneme segmentation, blending, manipulation skills and expressive vocabulary skills require more targeted instruction for children with lower oral language skills than observed in typical new entrant class language programmes.

• Transfer of improved PA knowledge to early reading and writing tasks was evident from class level instruction for children who entered the study with lower levels of oral language (This finding has not typically been observed in previous studies).
Acknowledgements

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Contact Details

Professor Gail Gillon  
Pro-Vice Chancellor  
College of Education Health and Human Development  
University of Canterbury  
Christchurch  
NEW ZEALAND  
gail.gillon@canterbury.ac.nz

Free resources to download  
http://www.canterbury.ac.nz/education/research/phonological-awareness-resources/