

Why Create a New Knowledge Product for Speech Language Pathology?

- To promote easy access to clinically-relevant evidence
- To stimulate greater usefulness and uptake of research findings
- To merge the skills and insights of clinicians and researchers in creating high-quality knowledge products

The BC SLP Council for Early Childhood Development, with funding from the British Columbia Ministry of Children and Family Development, engaged Knowledge Impact Strategies Consulting Ltd to create a prototype of a user-friendly database of research articles on language intervention for preschool children.

How Was the Product Created?

The knowledge product prototype was created by selecting, sorting, assessing, and highlighting research articles. The six steps to completion were designed and executed using rigorous research methods and perspectives on clinical practice.

Step 1 How we found the articles

To create the prototype, we extracted all of the articles cited in three systematic reviews (Fey, Long, & Finestack, 2003; Friel-Patti, Loeb, & Gillam, 2001; Justice & Ezell, 2004) identified in the Catalogue of Paediatric Speech Language Pathology Reviews (<http://www.cckm.ca/CPSLPR/CPSLPR.htm>). The articles were entered into a preliminary database if they addressed

- A clinical intervention
- Child language
- Children of preschool age

Step 2 How we chose the articles

A team of researchers and speech language pathologists narrowed the database to include only articles that met their inclusion criteria

- Language impairment or delay
- Language intervention
- Preschool age
- Original research in peer-reviewed journals

Reviews of the literature and research described in books were not included.

| What we did | # of articles |
|--|---------------|
| Extracted articles from three systematic reviews | 2785 |
| Applied inclusion criteria based on the titles and abstracts of each article | 208 |
| Applied inclusion criteria based on the full text of each article | 16 |

Step 3

Evaluating the Research

Are you looking for studies that are well designed and useful for clinical practice? We made it easier by rating every article on factors of research quality and clinical relevance. Three trained clinicians independently evaluated the articles using our Clinical Relevance Assessment, while three trained researchers independently evaluated the articles using our Research Quality Assessment. Both assessments were developed for this project by Knowledge Impact Strategies Consulting Ltd.

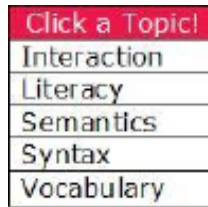
Each evaluator's total score for the article was calculated as the number of Yes votes divided by 2. Scores could therefore range from 0-5. Articles received the average score across the three evaluators on Clinical Relevance and on Research Quality.

| | Clinical Relevance | Yes | No |
|----|---|--------------------|-------------------|
| 1 | Is the information in the article clearly presented? | | |
| 2 | Is the intervention and its purpose clearly described? | | |
| 3 | Does the intervention implemented in the study seem reasonably available to clinicians? | | |
| 4 | Does the intervention implemented in the study seem cost-efficient? | | |
| 5 | Can the intervention implemented in the study be provided without special training? | | |
| 6 | Is the population of children treated in the study common to clinical practice? | | |
| 7 | If the intervention was put into practice, would there be a reliable/valid way of measuring outcomes? | | |
| 8 | Are guidelines provided for clinical practice? | | |
| 9 | Do the results seem attributable to the intervention? | | |
| 10 | Does the magnitude and significance of the effect of the intervention seem large enough to influence clinical practice? | | |
| | © 2009 Knowledge Impact Strategies Consulting Ltd. | TOTAL SCORE | # of Yes/2 |

| | Research Quality | Yes | No |
|----|---|--------------------|-------------------|
| 1 | Is the research question clearly stated? | | |
| 2 | Are the participants clearly described? | | |
| 3 | Is there evidence of group equivalence at the start? | | |
| 4 | Is there an appropriate comparison group? | | |
| 5 | Is there random assignment? | | |
| 6 | Is there testing before and after the intervention using comparable measures? | | |
| 7 | Are the outcome measures described? | | |
| 8 | Are the data presented fully so that one could find the sample sizes, means, standard deviations, and statistical significance? | | |
| 9 | Are the data analyzed in a way that seems to match the research question? | | |
| 10 | Do the conclusions and recommendations match the quality of results? | | |
| | © 2009 Knowledge Impact Strategies Consulting Ltd. | TOTAL SCORE | # of Yes/2 |

Step 4 The Research Landscape

The articles were sorted into topics. The 16 articles in our prototype covered 5 topics



The articles in each topic listed in a spreadsheet by author and coded on three factors

- Level of language development
- Intervention characteristics
- Measure

As a result, readers can visualize the landscape of research on each topic and can easily locate the articles that fit their interests.

Studies of Syntax

| Select an article! ▶ | Carstairs et al. (1982) | Carstairs et al. (1986) | Connell (1980) | Connell (1981) | Courlight et al. (1979) | Fry et al. (1983) | Fry et al. (1987) | Fry & Lueb (2002) | Huffman et al. (1996) | Leonard (1982) | Loeb et al. (2001) | Helson et al. (1998) |
|--------------------------------------|-------------------------|-------------------------|----------------|----------------|-------------------------|-------------------|-------------------|-------------------|-----------------------|----------------|--------------------|----------------------|
| LEVEL OF LANGUAGE DEVELOPMENT | | | | | | | | | | | | |
| Prefigsure | | | | | | | | | | | | |
| Words | | | | | | | | | | | | |
| Phrases | | | | | | | | | | | | |
| Sentences | • | • | • | • | • | • | • | | | | | • |
| Discourse | | | | | | | | | | | | |
| INTERVENTION CHARACTERISTICS | | | | | | | | | | | | |
| Caregiver | | | | | | | | | | | | |
| Child | • | • | • | • | • | • | • | • | • | | | • |
| Group | | | | | | | | | | | | |
| Teacher | | | | | | | | | | | | |
| Comprehension Training | | | | | | | | | | | | |
| Conversational Recast | • | • | | | | | | | | | | • |
| Imitation | • | • | • | • | • | | • | | | | | • |
| Mimicry | | | | | | | | | | | | |
| Modeling | | | | • | • | | | | | | • | • |
| Production Training | | | | | | | | | | | | |
| Reinforcement | | | | | • | | | | | | | |
| Other | | | • | | | • | • | • | • | | | • |
| MEASURE | | | | | | | | | | | | |
| Comprehension | | | | | | | | | | | • | • |
| Production | • | • | • | • | • | • | • | • | • | • | • | • |
| Both | | | | | | | | | | | • | • |

We created a Spotlight for each article in the landscape to show the

- Citation
- Clinical Relevance
- Research Quality
- Published Abstract

We also highlighted what we think the article has to offer you as a clinician.

If the Spotlight interests you, you can read the article by clicking Full Text.

Who Did the Work?

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