How to be a consumer of research

Trudy Little
Leta Palmiter
Vanderbilt University

Code: 678106
Leta Palmiter

- 22nd year in education
- BS Elementary Education
- M.Ed. Dyslexia Therapy
- Ed. S. Instructional Leadership
- Teacher general and special education
- Professional Development Provider
- Founder and Director of Illuminations Center for Dyslexia in Meridian, MS
Trudy Little

- 20th year in education
- BS Education ECE
- MS Teacher Leadership
- PhD in progress Special Education
- Teacher general and special education
- Trainer & Coach
Learner Objectives

1. Find sources of evidence
2. Begin to be good consumers of research,
3. Find evidence-based practices
4. Collaborate with researchers
Log in at www.kahoot.it or with the Kahoot! App

Code:
Who’s here?

Administrators

Teachers

Parents

Coaches/Mentors

Trainers
Why should you learn how to read research?

- L9: Leaders develop and implement evidence-based professional development system.
- If you are in the position to choose curriculum, developing a healthy skepticism will serve you well.

- A8: Practitioners use clinical reasoning in addition to assessment results to identify the child’s current levels of functioning and to determine the child’s eligibility and plan for instruction.
- If you have a student with weaknesses within a domain, research can help find solutions for that problem.
Where do I start?
Where do I start?
Where can you locate research based practices?

- What Works Clearinghouse
- ERIC
- EBSCO
- University libraries
- Science.gov
- ResearchGate.net
- Pubmed
- DEC membership
- NAEYC membership
- BACB membership
Figure II.1. Study Ratings for Individual-Level RCTs and QEDs

Step 1: Study Design
Is intervention and comparison group membership determined through a random process?

Step 2: Sample Attrition
Is the combination of overall and differential attrition high?

Step 3: Baseline Equivalence
Is equivalence established at baseline for the groups in the analytic sample?

Eligible to Meet WWC Group Design Standards Without Reservations
Eligible to Meet WWC Group Design Standards With Reservations
Does Not Meet WWC Group Design Standards

Note: To receive a rating of Meets WWC Group Design Standards Without Reservations or Meets WWC Group Design Standards With Reservations, the study must also satisfy the requirements in Chapter IV, including that the study must examine at least one eligible outcome measure that meets review requirements and be free of confounding factors.

The Gold Standard of research
Cause & Effect = manipulation of IV on DV
Correlation ≠ Causation

People who drowned after falling out of a fishing boat correlates with Marriage rate in Kentucky

Correlation: 95.24% (r=0.952407)

Spurious Correlations https://www.tylervigen.com/spurious-correlations
Who **funded** the study? Do they have a suspiciously special interest in the outcome?

- Institute of Education Sciences (IES)
- National Institutes of Health (NIH)
- Centers for research (Mathematica)
- Versus “Self” Researched
What is **grey literature**?

a collective noun to refer to a large number of publications types produced by organizations for various reasons

https://en.wikipedia.org/wiki/Grey_literature
What study designs meet IES standards?

What does peer reviewed mean?

How to recognize peer-reviewed (refereed) journals

In many cases professors will require that students utilize articles from "peer-reviewed" journals. Sometimes the phrases "refereed journals" or "scholarly journals" are used to describe the same type of journals. But what are peer-reviewed (or refereed or scholarly) journal articles, and why do faculty require their use?

Three categories of information resources:

- Newspapers and magazines containing news - Articles are written by reporters who may or may not be experts in the field of the article. Consequently, articles may contain incorrect information.
- Journals containing articles written by academics and/or professionals — Although the articles are written by "experts," any particular "expert" may have some ideas that are really "out there!"
- Peer-reviewed (refereed or scholarly) journals - Articles are written by experts and are reviewed by several other experts in the field before the article is published in the journal in order to ensure the article's quality. (The article is more likely to be scientifically valid, reach reasonable conclusions, etc.) In most cases the reviewers do not know who the author of the article is, so that the article succeeds or fails on its own merit, not the reputation of the expert.
Evidence of Effectiveness

The evidence is in, and it is clear: The Wilson Reading System® (WRS), published for 30 years, has been successfully implemented in public school districts, private clinics, and adult education settings across the country. Other Wilson programs, Fundations® for K-3, Just Words® for grades 4-12 and adults, and Wilson Fluency®/Basic, are based on these same proven WRS principles.

The following publications, citations, and studies provide Evidence of Effectiveness of Wilson® programs’ direct, explicit, and multisensory instruction. For more study results for each program, also visit the Fundations®, Just Words®, or Wilson Reading System® pages.
About 265 results (0.19 seconds)

WWC | Wilson Reading System®
No studies of the Wilson Reading System® that fall within the scope of the Students with Learning Disabilities review protocol meet What Works Clearinghouse ...

WWC | Wilson Reading System®
The Wilson Reading System® is a reading and writing program. It provides a curriculum for teaching reading and spelling to individuals of any age who have ...

Wilson Reading System
File Format: PDF/Adobe Acrobat
Effectiveness: No studies of the Wilson Reading System® that fall within the scope of the Students with Learning Disabilities review protocol meet What Works Clearinghouse ...
<table>
<thead>
<tr>
<th>Title</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classwide Peer Tutoring</td>
<td>1-4</td>
</tr>
<tr>
<td>Little Books</td>
<td>K</td>
</tr>
<tr>
<td>Fluency Formula</td>
<td>2</td>
</tr>
<tr>
<td>Read, Write &amp; Type!</td>
<td></td>
</tr>
<tr>
<td>Failure Free Reading</td>
<td>3</td>
</tr>
<tr>
<td>Waterford Early Reading Program</td>
<td>K</td>
</tr>
<tr>
<td>Wilson Reading System®</td>
<td>3</td>
</tr>
<tr>
<td>First Step to Success</td>
<td>K-3</td>
</tr>
<tr>
<td>Teach for America (TFA)</td>
<td>K-12</td>
</tr>
</tbody>
</table>
The Wilson Reading System® is a reading and writing program. It provides a curriculum for teaching reading and spelling to individuals of any age who have difficulty with written language. The Wilson Reading System® directly teaches the structure of words in the English language, aiming to help students learn the coding system for reading and spelling. The program provides interactive lesson plans and uses a sequential system with extensive controlled text. The Wilson Reading System® is structured to progress from phoneme segmentation to more challenging tasks, and seeks to improve sight word knowledge, fluency, vocabulary, oral expressive language development, and reading comprehension.

### Reviewed Research

**Beginning Reading** for **Students with a Specific Learning Disability**

**July 2007**

<table>
<thead>
<tr>
<th>Outcome domain</th>
<th>Effectiveness rating</th>
<th>Studies meeting standards</th>
<th>Grades examined</th>
<th>Students</th>
<th>Improvement index</th>
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<tr>
<td>Comprehension</td>
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<td>71</td>
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<tr>
<td>Reading fluency</td>
<td></td>
<td>1 study meets standards</td>
<td>3</td>
<td>71</td>
<td>--</td>
</tr>
</tbody>
</table>
National assessment of Title I interim report—Volume II: Closing the reading gap: First year findings from a randomized trial of four reading interventions for striving readers.


RANDOMIZED CONTROLLED TRIAL EXAMINING 104 STUDENTS, GRADES 3-5
“The Wilson Reading System uses direct, multisensory structured teaching based on the Orton-Gillingham methodology. Based on 10 principles of instruction, the program teaches sounds to automaticity; presents the structure of language in a systematic, cumulative manner; presents concepts within the context of controlled and noncontrolled written text; and teaches and reinforces concepts with visual-auditory-kinesthetic-tactile methods.

- Steps 1 through 6 establish foundational skills in word reading while Steps 7 through 12 present more complex rules of language, including sound options, spelling rules, and morphological principles.
- Students assigned to the word-level condition in this study
- Comprehension and vocabulary components deleted from training and instruction and all students progressed to somewhere between Steps 4 and 6.
Let’s Dig In
Participants

Who?  
772 participants

How many?  
50 schools in PA

Where?  
3rd & 5th graders

Characteristics?  
Struggling readers per teacher

- <30th percentile on word-level reading
- ≥ 5th percentile on vocabulary

- 45% free & reduced lunch
- 27% AA, 73% W, <2%Hispanic
- 33% learning disabled
Setting

Where/how are services delivered?

- Small groups
- 3 students
- Matched level in groups (as much as possible)
- 5 days a week
Procedure

1. What were the interventions?
2. What were the settings?
3. How often was the intervention provided?
4. What remedial instruction did the control groups get and how much?

1. Spell-Read, Wilson Language, Corrective Reading, and Failure-free Reading (p. ix, x, 29)
2. Large group, small group, limited one-on-one (p. 52)
3. 100 hours in 60-minute sessions, 5 days per week. (p. 30)
4. Diverse curricula, recorded number of minutes, no record of word-level or comprehension split (p. 30, 52)
Implementers

1. Who provided the intervention?
   a. Characteristics?
2. Training Time?
3. Training Type

1. General education teachers + 4 subs
   a. Phonemic awareness & phonemic decoding fluency
   b. Age not reported
   c. Experience not reported other than avg. experience per IV (8.9-20 years experience)

2. 69 hours of training
   a. 30 initial phase
   b. 24 practice phase
   c. 14 implementation

3. Face-to-face, coaching, consultations (phone), independent study
Method

What scientifically rigorous design?

- p. xiii
- Randomized Control Trial
  - Randomized assignment of schools to an intervention
  - Randomized assignment of students to intervention or control (no intervention for comparison)
Results for 3rd graders

Was there an effect of treatment?

*Hint* look for significant results

- p. 108
- 3rd grade
  - Treatment vs. Control
    - *All treatments scored significantly better on both DVs: word attack and word identification*
  - Word Attack significantly better
    - *Spell Read*
    - *Wilson Read*
    - *Corrective Reading (& wd. id)*
Results for 5th graders

Was there an effect of treatment?

*Hint* look for significant results

- p. 108
- 5th grade
  - Treatment vs. Control
    - *All treatment scored significantly better on 1 DV: Word Attack*
  - Word Attack significantly better
    - *Spell Read*
    - *Wilson Read*
    - *Corrective Reading*
A good study will suggest a finding, but it won’t PROVE anything with 100% certainty.

Review of Evidence

★ Meets Standards
  ○ Approved design
  ○ Rigorous

★ Participants
  ○ Pennsylvania 3rd & 5th
  ○ 50 schools
  ○ 45% FRL
  ○ 27%AA, 73%W, <2% Hisp
  ○ 33%LD

★ Intervention
  ○ Spell Read-$
  ○ Corrective Reading-$
  ○ Wilson Reading System-$
  ○ Failure Free-$

★ Implementers
  ○ GenEd Teachers
  ○ 2 day training
  ○ Sustained PD & independent study
  ○ Coaching
  ○ Consultation calls
“Nearly every intervention can show some evidence of success, so we need to ask not “What works?” but “What works best” and seek comparisons between different ways of influencing student learning… success looks like deep learning, (teachers) who provide appropriate levels of challenge and feedback, and who have aligned their claims about success, assessment, and teaching.”

(Hattie, 2015)
Collaboration with higher education

- Investigate local universities online
  - Who is researching what?
  - Are there potential topics you’d like to learn more about?
  - Is anyone researching your preferred method/strategy?
- Volunteer to participate in a study
- Discuss potential PD opportunities with professors/staff working with professors


https://en.wikipedia.org/wiki/Grey_literature
https://ies.ed.gov/ncee/wwc/FWW
https://www.wilsonlanguage.com/programs/research-results/