Implementation Science: Moving Evidence into Practice and Giving Practice Evidence

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Research Issues Across the Discipline

Lesley Olswang, PhD
Professor, Dept. of Speech and Hearing Sciences, University of Washington

Ray Kent, PhD
Professor, Dept. of Communication Sciences & Disorders, University of Wisconsin

Pam Crooke, PhD
Director of Research & Content/Curriculum Development
Social Thinking

Social Thinking
Olswang Disclosure

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Now, more than ever, integrated approaches to acquiring scientific knowledge are needed to support practitioners in their delivery of the most effective services possible.
Evidence for the 21\textsuperscript{st} Century:

Requires a comprehensive view of research that

- Continues to examine \textit{efficacy} of assessment and treatment protocols under controlled conditions, but also
- Examines how proven protocols can be implemented with fidelity and sustainability into practice
- Examines practice-based protocols for evidence of their success
- Examines issues of service delivery and quality of care
Traditional Research Continuum

**Efficacy**
- Laboratory setting
- Controlled conditions

**Effectiveness**
- Expanded variables in everyday context

**Implementation**
- Application and utilization of protocols in practice

Scale-up Research
Health Service Research
Implementation Science
Translational Research
Community-based Research

Robey’s Phases

Where are the stakeholders (practitioners, administrators, clients, caregivers) in this model?
Implementation Science

- Research that addresses the complex, real-world variables in practice settings by
  - Investigating **barriers to** and **solutions** for delivery of sustainable, effective protocols that will maximize positive outcomes for a large number of consumers
  - Including stakeholders
  - Actively integrating research and practice
<table>
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<th>Asha Journals</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
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<td><strong>Total # articles</strong></td>
<td>136</td>
<td>142</td>
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<td>161</td>
<td>169</td>
<td>127</td>
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<td><strong>Total # (%) of treatment articles</strong></td>
<td>12 (9%)</td>
<td>8 (6%)</td>
<td>25 (16%)</td>
<td>11 (7%)</td>
<td>18 (11%)</td>
<td>13 (10%)</td>
<td>22 (16%)</td>
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<td><strong># (%) of treatment articles focusing on efficacy</strong></td>
<td>6 (50%)</td>
<td>7 (88%)</td>
<td>13 (52%)</td>
<td>3 (27%)</td>
<td>10 (56%)</td>
<td>9 (69%)</td>
<td>14 (63%)</td>
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<td><strong># (%) of treatment articles focusing on effectiveness or implementation</strong></td>
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<td>1 (13%)</td>
<td>3 (12%)</td>
<td>3 (27%)</td>
<td>4 (22%)</td>
<td>4 (31%)</td>
<td>6 (23%)</td>
<td>24 (22%)</td>
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Three Perspectives

- Applied/Clinical Researcher
- Basic Researcher
- Practitioner Researcher
Applied Researcher’s Perspective

As an SLP in early intervention: Am I making a difference? What’s the role of maturation?

What to treat?
When to treat?
How long to treat?
My* research story: Moving from efficacy to Implementation

Examining the efficacy of a short-term, intensive treatment designed to teach triadic eye gaze (TG)(shifting gaze between an object and adult) as a signal of intentional communication to young children (10-24 months of age) with severe physical disabilities

*UW TG Team: Patricia Dowden, Gay Lloyd Pinder, Julie Stratton Feuerstein, Kathryn Greenslade

Following the traditional research continuum……
Triadic Gaze Research Program

1990s

• Feasibility Study: Time Series, Single-Case Study, ABA, Multiple Baseline across contexts (Pinder, Olswang & Coggins, 1993)

• Feasibility Study: Time Series, ABA, Multiple Baseline across contexts, replicated across three children (Pinder & Olswang, 1995)
  – Single SLP, Child-focused Tx, 2 times/week, ~15 weeks, in clinic, outcome measures 1 time/week

• Feasibility Study: Time series, Multiple Baseline across caregivers (Olswang, Pinder, & Hanson, 2006)
  – Same SLP, Caregiver-focused Tx, 2 times/week, 3 weeks, outcome measures 1 time/week
2006 – 2012

• Randomized Controlled Study: (46 consented)
  Experimental Group (N=9) TG treatment + standard care
  Control Group (N=9) Standard care only
  3 different Tx SLPs
  Tx 2 times/week, ~16 weeks, in home
  Different SLP outcome measures every three weeks,
  with follow-up 1 month post tx

As with the feasibility studies – promising results for the success of a short-term, SLP delivered, child-focused treatment to teach gaze as a communication signal to young children with physical impairments
Implementation – Moving into practice

Challenges (to name a few):

• Understanding the intricacies of service delivery systems (birth-to-three centers), including:
  – the needs, priorities and investment of stakeholders (organization/administrators, practitioners, children, families)
  – the constraints of “real-world” logistics that influence the training, implementation fidelity and stability of treatment delivery
  – the appropriateness and sensitivity of outcome measures for phases of implementation and various stakeholders
Next Research Step – Implementation Research

• Can the treatment be implemented as designed?
• What adaptations need to be made?
• What type and degree of training are required?
• How does administrator/practitioner buy in influence implementation?
• Research that investigates and documents the success of implementation is every bit a science as efficacy research – but different research paradigms

The question that I keep coming back to: If I knew more about implementation science, would I have designed my program differently from the start?