

Evidence-Based Practice

What Does it Really Mean for Early Education and Intervention?

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Objectives

- Identify sources of professional knowledge
- Define evidence-based practice & its origins
- Consider effect of evidence-based practice on policy, research, knowledge utilization
- Use EBP to resolve a practice dilemma





<http://www>



What is the
main source of
knowledge
guiding your
practice?

Sources of Knowledge

- Research
- Wisdom & experience
- Core values
- Other sources?

What is your definition of evidence-based practice?



Darius

- The OT plans to work primarily with the teacher.
- The teacher wants one-on-one pull-out OT.
- The family hopes Darius will make new friends.
- The program director wants inclusion to work.

What Does the Research Say?

Syntheses of research findings do not directly answer the question of whether pull-out or integrated therapy is best.

How would you decide
what to do?

Evidence-Based Practice (EBP)

a decision-making process that integrates the best available research evidence with family & professional wisdom & values (Buysse & Wesley, 2006; Snyder, 2006; Winton, 2006)

What is.....

- Best-available Evidence?
- Professional and Family Wisdom?
- Values?



Sample Questions

- Which practices are most effective?
- For whom?
- Compared to what?
- How do I measure the results?

A Reflection on Terminology

- Recommended practices
- Developmentally appropriate practices (DAP)
- Scientifically-based research
- Evidence-based practices-A Noun
 - Specific practices that have evidence of efficacy or effectiveness
- Evidence-based practice-A Verb
 - A process for using empirical research and knowledge and values of professionals and families

Why did EBP Emerge?

- Evidence-based medicine; Evidence-based education

Evidence-Based Medicine

The integration of the best available research evidence with clinical expertise and patient values.

(Sackett et al., 2000)

Evidence-Based Education

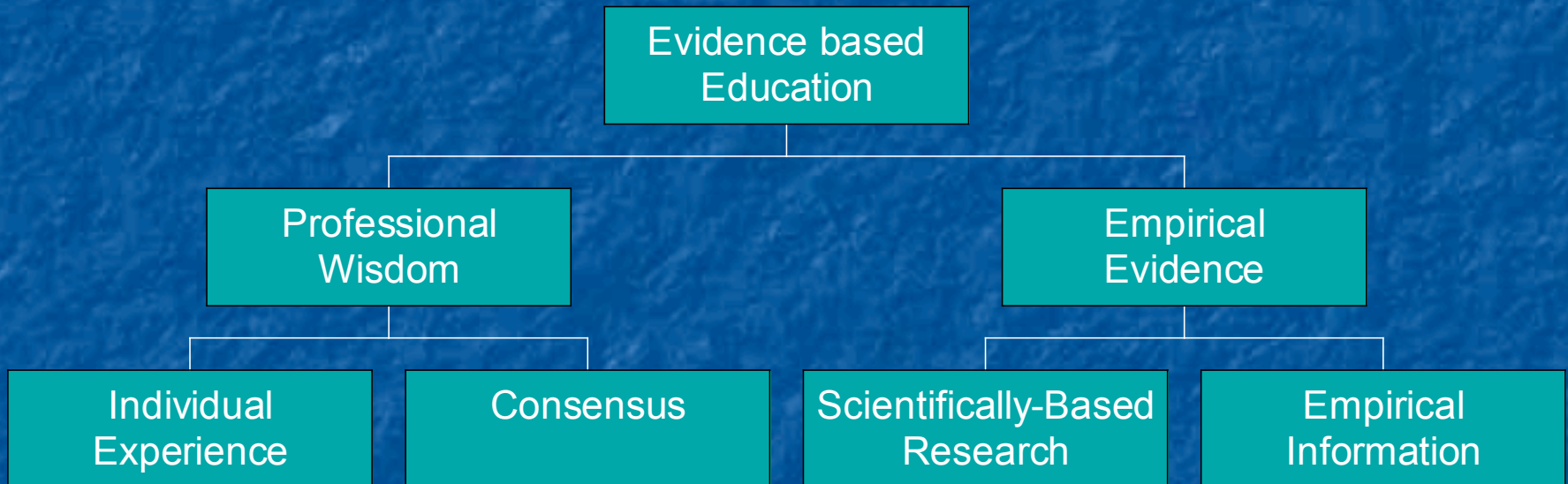
(Whitehurst, 2002)

Integration of professional wisdom with the best available empirical evidence in making decisions about how to deliver instruction

Whitehurst, G. J. (2002, October). *Evidence-based education*. Presentation at the Student Achievement and School Accountability Conference. Retrieved June 23, 2004 from www.ed.gov/offices/list/ies/director.html

Evidence-based Education

(Whitehurst, 2002)



Why did EBP Emerge?

- Evidence-based medicine
- Gap between research & practice

Why don't practitioners
do what the research says?

Why don't researchers
study what really matters
in practice?

Why did EBP Emerge?

- Evidence-based medicine
- Gap between research & practice
- Accountability & standards movement

How the Accountability & Standards Movement Paved the Way for EBP

- Government Performance & Results Act (1993)
- Program Assessment Rating Tool (2002)
- Head Start Act (1998)
- No child Left Behind Act (2001)
- Good Start, Grow Smart (2002)

How will EBP Affect Policy?

- What sources of evidence are available and legitimate?
- What weight should policy makers give to different types of evidence in deciding what programs and actions to implement for the good of society?



B. Smaller

How will EBP Affect Research?

- Demand for scientific evidence to show what works, for whom, under what circumstances
- Need to appraise the quantity and quality of research
- What forms of “evidence” count?
 - Randomized controlled experiments – gold standard?
 - It depends.....

Influence of EBP on Research

- Evidence generation process
 - Development and Demonstration
 - Efficacy
 - Effectiveness
 - Scale-Up
- Key role of measurement
- Demands for scientifically valid research and focus on accountability

How will EBP Change the Ways in Which We Share & Use Knowledge?

- Emphasis on gathering & synthesizing practice knowledge
- Proliferation of EBP web sites

What Works

CLEARINGHOUSE

w-w-c.org

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The What Works Clearinghouse was established by the U.S. Department of Education's Institute of Education Sciences to provide educators, policymakers, and the public with a central, independent, and trusted source of scientific evidence of what works in education. It is administered by the Department through a contract to a joint venture of the American Institutes for Research and the Campbell Collaboration.

What education areas should the WWC review in future years?

Click here for information on submitting studies and interventions.

What Works Clearinghouse
2277 Research Boulevard, MS 6M
Rockville, MD 20850
Email: wwcinfo@w-w-c.org
Phone: 1-866-WWC-9799
Fax: 301-519-6760

Review Indicators in WWC

Key



Positive effects: strong evidence of a positive effect with no overriding contrary evidence



Potentially positive effects: evidence of a positive effect with no overriding contrary evidence



Mixed effects: evidence of inconsistent effects



No discernible effects: no affirmative evidence of effects



Potentially negative effects: evidence of a negative effect with no overriding contrary evidence



Negative effects: strong evidence of a negative effect with no overriding contrary evidence

Review in Early Childhood for WWC

Effectiveness ratings for Early Childhood Education programs in six domains

Intervention	Oral language	Print knowledge	Phonological processing	Early reading/writing	Cognition	Math
<u>DaisyQuest</u>			+			
<u>Dialogic Reading</u>	+		?			
<u>Interactive Shared Book Reading</u>	±	?		±		
<u>Phonological Awareness Training</u>			+			
<u>Phonological Awareness Training plus Letter Knowledge Training</u>	-?	+	±	±	?	
<u>Shared Book Reading</u>	±		±			
<u>Sound Foundations</u>			±	±		
<u>Words and Concepts</u>	?					

WWC Review in Beginning Reading

Effectiveness ratings for Beginning Reading programs in four domains

Intervention	Alphabetics	Comprehension	Fluency	General reading achievement
DaisyQuest	+			
Reading Recovery®	+	+	+	+



Research and Training Center on Early Childhood Development



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The mission of the Research and Training Center (RTC) on Early Childhood Development is to promote and enhance the healthy development of infants, toddlers, and preschoolers with or at risk for developmental delays or disabilities. The RTC was established to create a bridge between research evidence and early childhood intervention practices.

Our website is designed specifically for parents, therapists, early childhood educators and early interventionists, as well as researchers. The website includes information about effective practices based on research. If you are interested in the latest research on a particular intervention practice, visit our [products page](#). If you can't find what you are interested in, let us know what you need by completing the [topic suggestion form](#). We are committed to making the materials on our website as useful as possible. We appreciate any feedback you can give us to make improvements, and encourage you to visit our [feedback page](#).

The RTC is a major initiative of the [Center for Evidence-Based Practices](#) at the [Orelena Hawks Puckett Institute](#). RTC partners include the [Center for Excellence in Early Childhood Education](#), Asheville, NC, and the [Family, Infant and Preschool Program](#), Western Carolina Center in Morganton, NC. The RTC is funded by the U.S. Department of Education, Office of Special Education Programs (OSEP), Research-to-Practice Division.

- More information for:**
- [Early Childhood Practitioners](#)
 - [Childcare Professionals](#)
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Take a look!

[Centerscope](#) Articles about the conceptual and operational framework of the RTC

[Bridges](#) Practice-centered research syntheses of topics related to early childhood development

[Bottomlines](#) One-to-two page summaries of practice-based research syntheses



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Center on the Social and Emotional Foundations for Early Learning



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Tuesday, Nov 1

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Welcome!

The **Center on the Social and Emotional Foundations for Early Learning** is a national center focused on strengthening the capacity of child care and Head Start programs to improve the social and emotional outcomes of young children.

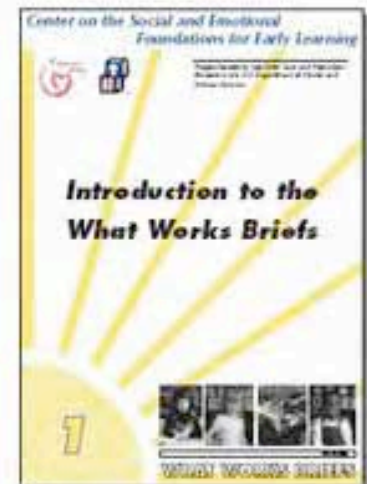
The Center will develop and disseminate evidence-based, user-friendly information to help early childhood educators meet the needs of the growing number of children with challenging behaviors and mental health challenges in child care and Head Start programs.

The Center on the Social and Emotional Foundations for Early Learning will:

- Focus on promoting the social and emotional development of children as a means of preventing challenging behaviors.
- Collaborate with existing training and technical assistance (T/TA) providers for the purpose of ensuring the implementation and sustainability of practices at the local level.
- Engage in a comprehensive, culturally sensitive approach that is inclusive of and responsive to the needs of programs, families, other professionals, and communities.



Training Modules are now available! [View](#) or [Order](#) them now!



Check out the **What**

Which Practices Are Supported by Research Evidence?

- **Response Contingent Learning**
- **Caregiver Responsive Style of Interaction**
 - **Effects on language and attachment**
- **Parent-Child Interaction Therapy for Children with Disruptive Behavior**
- **Use of “social toys” to promote peer interaction**
- **Pivotal Response Training for Children with Autism**

Which Practices Are Supported by Research Evidence?

- Dialogic reading
- Responsive home environment and social-emotional development
- Interventions to promote parent sensitivity
- Guided design learning and adult problem solving
- Contingent touch and infant responses

Which Practices Are Supported by Research Evidence?

- Incorporating child interest in teaching and learning activities
- Adult reinforcement and child behaviors
- Treadmill to promote walking (but feasibility for parent has not been examined)

Which Practices Are **Not** Supported by Research Evidence?

- Dolphin Therapy
- Diagnostic Practices for EC ADHD
- Melodic intonation therapy
- Infant Massage
- Yoga and children with developmental delays
- Craniosacral therapy

How will EBP Change the Ways in Which We Share & Use Knowledge?

- Emphasis on gathering & synthesizing practice knowledge
- Proliferation of EBP web sites
- Need for skills in appraising quality of evidence
- Demand for “research-based” professional development

Appraising internet sites-

1. Who (agency/org) sponsors the Web site?
2. Info re: agency's mission, activities, board of directors? Reputation?
3. Author's credentials and relevant experience? Is a vita available?

Appraising internet sites-

4. Bibliography or reference list available?
5. Date re: when material was posted?
How recent were studies conducted?
6. Evidence available for any recommended product, service or intervention approach?



Consider a 5-step Process

Adapted from Evidence-Based Medicine

1. Pose an answerable question.
2. Find best available research evidence. (*Where?*)
3. Appraise evidence quality & relevance. (*Who? How?*)
4. Integrate the research evidence with professional and family wisdom & values. (*How?*)
5. Evaluate effectiveness of steps 1-4. (*How?*)

Is there a research synthesis on this practice?

Rolandelli, P.S., & Dunst, C.J. (2003). Influences of hippotherapy on the motor and social-emotional behavior of young children with disabilities. *Bridges*, 2(1), 1-14.

Step 1: Posing Question

	Target Group or Issue	Intervention	Comparison condition (if applicable)	Outcomes of Interest
Question 1:	For young children with disabilities...	...is hippotherapy		effective for improving motor, social-emotional and language functioning?
Possible search terms	young children, special needs, cerebral palsy	Hippotherapy, therapeutic riding, therapeutic horseback riding, horseback riding, equine therapy, riding therapy, therapeutic horsemanship		[could include specific outcome measures in search]

Adapted from: What Works for Children Group. (2003). *Evidence guide: An introduction to finding, judging, and using research findings on what works for children and young people*. London: Economic and Social Research Council. [MIND Grant – Evidence-based practice seminar]

Step 2: Finding “Best Available” Evidence: Example Search

- CINAHL database
- Search terms “hippotherapy” *and* “cerebral palsy”
- Results of search evaluated against question posed and study inclusion/exclusion criteria

Search Results....

- McGibbon, N.H., Andrade C., Widener G., & Cintas H.L. (1998). **Effect of an equine-movement therapy program on gait, energy expenditure, and motor function in children with spastic cerebral palsy: A pilot study.** *Developmental Medicine & Child Neurology*. 40,, 754-62. (58 ref)
- Debusse, D., Chandler C., & Gibb C. (2005). **An exploration of German and British physiotherapists' views on the effects of hippotherapy and their measurement.** *Physiotherapy Theory and Practice*, 21(4): 219-42.
- Meregillano, G. (2004). **Hippotherapy.** *Physical Medicine and Rehabilitation Clinics of North America*, 5(4), 843-54. (17 ref)
- Casady, R.L., Nichols-Larsen, D.S. (2004). **The effect of hippotherapy on ten children with cerebral palsy.** *Pediatric Physical Therapy*, 16(3), 165-72. (37 ref)
AN: 2004207975.
- Benda, W., McGibbon, N.H., & Grant K.L. (2003). **Improvements in muscle symmetry in children with cerebral palsy after equine-assisted therapy (hippotherapy).** *Journal of Alternative and Complementary Medicine*. 9(6): 817-25. (24 ref)
- Haehl, V., Giuliani C., & Lewis C. (1999). **Influence of hippotherapy on the kinematics and functional performance of two children with cerebral palsy.** *Pediatric Physical Therapy*, 11(2): 89-101. (26 ref) [See Bridges summary]
- Delinger, C. & Cummins, T. (1997). **Interview with a practitioner: Hippotherapy.** *Alternative Health Practitioner, Fall-Winter*; 3(3): 161-5.
- How many of above might meet the inclusion/exclusion criteria?

Step 3: Appraising the Evidence

- Which approach?
 - Levels of evidence
 - Quality indicators
 - Functional approaches
- Individual studies versus group of studies
- Functional approach used in the example synthesis

Select Criteria for Appraising Research Syntheses

■ “Quality”

- Is the question that focuses the synthesis stated or able to be inferred?
- Is a clear description provided for intervention under consideration?
- Are search strategies used sufficiently described?
- Are sources used in search listed?
- Is study inclusion and exclusion criteria specified?

■ “Transparency”

- Is it clear what criteria were used to appraise the evidence?
- Do the criteria appear appropriate for answering the question?
- Are inter-coder agreement procedures described?
- Are conclusions about the intervention supported by the appraisal evidence presented?

■ “Relevance”

- How similar to **your** target group are the participants in the reviewed studies?
- How similar is **your** planned intervention to the intervention described in the synthesis?
- Do the results of the synthesis help inform **your** question?
- Do the results of the synthesis help inform **your** EBP decisions?

Step 4: Integrating

- Integrate research evidence with professional and family wisdom & values

Where do we go from here?





P. Steiner

"Medicine is giving the eat-drink-and-be-merry model another look."

How can we reach
agreement as a field about
what evidence-based practice
means?



Does
research trump
professional and family
wisdom and values?

How can we make knowledge
accessible and transparent to
anyone who desires it?



Eminence-Based Practice

Making the same mistakes with increasing confidence over an impressive number of years.

—O'Donnell, 1997, *A Skeptic's Medical Dictionary*