Linking Research to Classroom Instructional Practices

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A Model for Linking Research to Classroom Instructional Practices

Identify the problem.

Gather research.

Evaluate.

Analyze research.

Determine relevance.

Summarize the research.

Conduct professional development.

Define expected outcomes.
Initial Analyzing Questions

**WHO** conducted the research?
- Does the organization or individual process credible background to address the research topic with an authoritative voice?
- Is the research cited in reputable (preferably peer-reviewed) sources?
- Is there reason to believe that the organization would have any bias regarding the topic therefore make the results questionable?
- Who funded the organization’s syntheses or research?

**WHAT** is being researched?
- Is the research topic focused sufficiently so that the collected data feasibly supports the results?
- Is the collected data collected and analyzed without bias?
- Does the research have well-defined anticipated outcomes with positive student results?
- Does it meet your needs and align with your curriculum goals?
- Are the effect sizes between the subgroups involved in the study fair to excellent?
- Are the long-term implementation plans written and included with the research?

**WHEN** was the research conducted?
- If the research is brand-new, does it pay attention to the studies and findings that came before it?
- What is the timing of the initial launch?
- What is frequency and mechanism for updating materials?
**WHERE** was the research done?

- Is the number of individuals involved in the study enough for a credible measure (given the topic studied)?
- Does the practice have an appropriate target population (school age 3 through 21)?
- If descriptors of target population are not current, are cross-referenced to current descriptors or clearly defined?
- Are the subjects randomly assigned to the groups?
- Was data collected for all subjects? Was it included in the results?
- Can be used in classroom setting?
- Is the research applicable to your target population?
- Can the results be generalized to other settings or populations?
- Can the practice be revised to meet your needs and maintain quality implementation and data collection?

**WHY** was the research conducted?

- Does the research have a clear purpose?
- If the research was conducted to prove effectiveness of a program, or sponsored by persons who could benefit from positive results?
- Is there any other research that is relevant to this study?
- If so, are the researchers speaking with the same voice?
- If not, why do the researchers disagree?
- Does the practice based on educational theory (established, emerging, or proposed)?
- Does it have prior research to support the purpose and anticipated outcomes?
- Does the stated purpose aligned with educating all students in the least restrictive environment?
HOW was the data gathered and analyzed?

- Is the methodology sound?
  - Is the practice replicable (participants, instruments, procedures, and activities)?
  - Does the practice have face validity? Does it seem like a good idea?
  - Does the practice have social validity? Could the practice be implemented in a community setting without concern?
  - Does the practice have internal validity? Is the change the result of treatment rather than outside variables?
  - Does the practice have statistical significance? Is the change a real one as opposed to a random occurrence?
  - Does the practice have practical significance? Is the change an important one rather than a trivial one?

- Is there a control group for comparing?
- What procedures were used to develop appropriate questions, to determine how to organize data, and to analyze the data?
- Does the practice connect to the previous findings in research?
Capacity Considerations

Intellectual capacity: the knowledge and skills needed to implement the practice.
- Is there external support to help implement the practice (i.e., technical assistance centers, program developers, district or regional staff)?

Physical capacity: the physical space, materials, and technology needed for implementation.
- Are the materials for the practice replicable, available, or cost prohibitive?

Fiscal capacity: the financial resources needed to acquire or develop the practice
- Do you have the organizational resources for effective implementation (budget line items such as materials, staff time, professional development, incentives, substitute pay, travel expenses, consultants, and evaluation costs)?
- What are the implications for our staff in terms of time, resources, or professional development?

Social capacity: the quality of interpersonal relations and trust needed among the stakeholders to support implementation.
- Does the practice considered the involvement of educators, parents, business, and/or community representatives, as appropriate.

Cultural capacity: the degree to which your organization has shared goals and values for student learning.
- Is there agreement on the knowledge, skills, and attributes all students should attain?
- Do these attributes aligned with the practice being considered?
- Does the practice support your school improvement plan?
- Does the practice support the other standards (area/grade level, benchmarks)?

## General Characteristics of Adult Learners as Compared to Children

<table>
<thead>
<tr>
<th>CHILDHOOD</th>
<th>ADULTHOOD</th>
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<tbody>
<tr>
<td>Children depend upon adults for material support, psychological support, and life management. They are other-directed.</td>
<td>Adults depend upon themselves for material support and life management. Although they must still meet many psychological needs through others, they are largely self-directed.</td>
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<td>Children perceive one of their major roles in life to be that of learner.</td>
<td>Adults perceive themselves to be doers; using previous learning to achieve success as workers, parents, etc.</td>
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<td>Children, to a large degree, learn what they are told to learn.</td>
<td>Adults learn best when they perceive the outcomes of the learning process as valuable--contributing to their own development, work success, etc.</td>
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<td>Children view the established learning content as important because adults tell them it is important.</td>
<td>Adults often have very different ideas about what is important to learn.</td>
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<tr>
<td>Children, as a group within educational settings, are much alike. They're approximately the same age, come from similar socioeconomic backgrounds, etc.</td>
<td>Adults are very different from each other. Adult learning groups are likely to be composed of persons of many different ages, backgrounds, education levels, etc.</td>
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<tr>
<td>Children actually perceive time differently than older people do. Our perception of time changes as we age--time seems to pass more quickly as we get older.</td>
<td>Adults, in addition to perceiving time itself differently than children do, also are more concerned about the effective use of time.</td>
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<td>Children have a limited experience base.</td>
<td>Adults have a broad, rich experience base to which to relate new learning.</td>
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<td>Children generally learn quickly.</td>
<td>Adults, for the most part, learn more slowly than children do, but they learn just as well.</td>
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<td>Children are open to new information and will readily adjust their views.</td>
<td>Adults are much more likely to reject or explain away new information that contradicts their beliefs.</td>
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<td>Children's readiness to learn is linked to both academic development and biological development.</td>
<td>Adults' readiness to learn is more directly linked to need--needs related to fulfilling their roles as workers, spouses, parents, etc. and coping with life changes (divorce, death of a loved one, retirement, etc.).</td>
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<tr>
<td>Children learn (at least in part) because learning will be of use in the future.</td>
<td>Adults are more concerned about the immediate applicability of learning.</td>
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<td>Children are often externally motivated (by the promise of good grades, praise from teachers and parents, etc.)</td>
<td>Adults are more often internally motivated (by the potential for feelings of worth, self-esteem, achievement, etc.)</td>
</tr>
<tr>
<td>Children have less well-formed sets of expectations in terms of formal learning experiences. Their &quot;filter&quot; of past experience is smaller than that of adults.</td>
<td>Adults have well-formed expectations, which, unfortunately, are sometimes negative because they are based upon unpleasant past formal learning experiences.</td>
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Identifying and Overcoming Obstacles

Once they find obstacles, what strategies did they use to overcome them?

Environmental Obstacles
  o Administration
    ▪ Gain the approval and support of the administration
    ▪ Demonstrate the feasibility of the intervention in the classroom
  o Lack of Adequate Resources
    ▪ Resource sharing with other providers
    ▪ Cross-site training and technical assistance
    ▪ Community-wide collaboration
    ▪ Select practices that replace existing interventions
    ▪ Give reasonable time frames

Personal Obstacles
  o Beliefs and attitudes, and self-efficacy
    ▪ Articulate existing beliefs and attitudes
    ▪ Hold frequent meetings to discuss change
    ▪ Utilize motivational strategies to move staff ambivalence toward positive change
    ▪ Ensure a clear understanding of practice
    ▪ Enlist a neutral facilitator
    ▪ Articulate existing beliefs and attitudes
    ▪ Hold frequent meetings to discuss change
    ▪ Utilize motivational strategies to move staff ambivalence toward positive change
    ▪ Ensure a clear understanding of practice
    ▪ Enlist a neutral facilitator
    ▪ Affect beliefs through information
    ▪ Provide opportunities to speak with people who have succeed
    ▪ Provide incentives and recognition
    ▪ Demonstrate the feasibility of the intervention in the classroom
    ▪ Provide appropriate materials and resources for classroom use
    ▪ Allow adjustment to meet the needs of the classroom
Personal Obstacles (continued)

- Lack of knowledge or skill
  - Identify resources
  - Designate strong school site facilitator
  - Institute quality professional development
  - Provide scaffold instruction
  - Develop personal staff development plans
  - Supervise and mentor
  - Offer continued supports and follow-ups
  - Collaborative training and technical assistance
  - Develop shared vision and commitment

- Lack of collaboration
  - Implement a collaborative planning model
  - Use stakeholder teams to make decision
  - Address issues with scheduling and supporting personnel
  - Partner with other agencies implementing the same intervention
  - Develop a community-wide system where the evidence-based practice is essential to producing desired outcome
  - Have the staff to buy into the idea and develop an ownership of the practice
  - Create a venue to handle bumps during the initial stages of implementation
  - Keep the lines of communication open
  - Ensure appropriate materials and resources

(Denton et al., 2003; Dixon, n. d.; Fuchs & Fuchs, 2001; Guskey, 1991; Haynes & Haines, 1998; Klingner et al., 2003; Little & Houston, 2003; The Access Center, 2004; Vaughn et al., 2004)
## Evaluation

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<tr>
<th>Phases of Development</th>
<th>Appropriate Processes and Action Steps during Phase of Development</th>
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<tbody>
<tr>
<td><strong>Planning Phase</strong></td>
<td>Use participatory (collaborative) and empowerment evaluation processes to:</td>
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<td>- Determine target population.</td>
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<td>- Assess needs.</td>
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<td>- Clarify outcomes.</td>
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<td>- Assess processes.</td>
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<td>- Assess stakeholders’ reaction to the intended program.</td>
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<td><strong>Conducting Phase</strong></td>
<td>Use participatory (collaborative) and empowerment evaluation processes to:</td>
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<tr>
<td>(Formative Evaluations)</td>
<td>- Assess through input whether the program is working as designed.</td>
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<td>- Give feedback.</td>
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<td>- Collect credible data.</td>
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<td></td>
<td>- Study data in relationship to identified benchmarks to inform revisions, improvements, or minor adjustments to program design.</td>
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<tr>
<td><strong>Reporting Phase</strong></td>
<td>Use participatory (collaborative) and empowerment evaluation processes to:</td>
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<tr>
<td>(Summative Evaluations)</td>
<td>- Collect credible data upon which to base judgments about the program’s merit and worth.</td>
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<td></td>
<td>- Provide a summary judgment about the program’s performance and impact.</td>
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### Focus of Questions

**Process:**
- How well is the program working?
- How is its implementation aligned with the intended plan?
- Does it meet standards of operation?
- Are the components in place as planned?

**Results:**
- Does the program produce results?
- Does it have impact?
- What unintended effects, if any, are occurring?

(Killion, J., 2002)
Factors for Sustainability Checklist

Infrastructure capacity building
  o Structures and formal linkages to sustain the program
    o Assess structure and formal linkages to sustain the program.
    o Plan strategically for building and/or maintain structures and formal linkages to support the program.
    o Implement, evaluate, reassess, and modify, if necessary, the plan for strengthening structure and formal linkages to support the program.
    o Create and/or maintain structures and formal linkages to support the program.
  o Champion roles and leadership actions to sustain the program
    o Assess existing champion (those who have power and act as advocates for the functional area related to the program) roles and leadership actions that can sustain the program.
    o Plan strategically to strength and/or maintain leadership actions and champion roles to support the program.
    o Implement, evaluate, reassess, and modify, if necessary, a plan to sustain the champion roles and leadership actions.
    o Cultivate champions and leaders.
    o Establish linkages between leader(s) and champions and program stakeholders.
  o Resources to sustain the program
    o Assess resources to sustain the program.
    o Develop a resource acquisition plan to sustain the program to include:
      ▪ Funding from continuous streams
      ▪ Staffing
      ▪ Computer technology (including software)
      ▪ Workspace
      ▪ Information access
    o Implement, evaluate, reassess, and modify, if necessary, resource acquisition plan.
  o Administrative policies and procedures to sustain the innovation
    o Assess policies and procedures to sustain the program.
    o Develop plan to strengthen and/or maintain policies and procedures and/or revise existing policies and procedures.
    o Implement, evaluate, reassess, and modify, if necessary, such policies and procedures.
  o Expertise to sustain the innovation
    o Assess necessary expertise to sustain the program.
    o Develop a plan to acquire and/or maintain adequate expertise specific to the program.
    o Implement, evaluate, reassess, and modify, if necessary, expertise development plan.
Sustainable innovation
  o Alignment between the program and the needs of program stakeholders
    o Assess program stakeholders and their needs and the program’s integrity including:
      ▪ Complexity
      ▪ Effectiveness
      ▪ Compatibility
      ▪ Perceived benefit
    o Develop a plan to adopt, adapt, and/or maintain a program with integrity.
    o Implement, evaluate, reassess, and modify, if necessary, plan.
  o Relationship among the program’s key stakeholders
    o Assess and enhance, when necessary, the network among key stakeholders’ (i.e. developers, implementers, evaluators, and decision makers):
      ▪ Ability to collaborate
      ▪ Level of trust
      ▪ Level of communication
      ▪ Level of credibility
      ▪ Level of enthusiasm
      ▪ Ability to create excitement
    o Develop a plan to establish and/or maintain relationships among key stakeholders.
    o Implement, evaluate, reassess, and modify, if necessary, plan.
  o Implementation quality and integrity of the program
    o Assess adequacy of process evaluation strategy.
    o Develop a plan to conduct process evaluation and utilize results to ensure quality (e.g. fidelity, strength, and reach) and integrity of the program during implementation of the innovation.
    o Implement, evaluate, reassess, and modify, if necessary, plan.
  o Effectiveness of the program
    o Assess adequacy of outcome evaluation strategy.
    o Develop a plan to conduct outcome evaluation and utilize results to ensure effectiveness of the innovation during implementation of the program.
    o Implement, evaluate, reassess, and modify, if necessary, plan.
  o Ownership among the program stakeholders
    o Assess ownership among program stakeholders.
    o Develop a plan to establish and/or maintain ownership among key stakeholders.
    o Implement, evaluate, reassess, and modify, if necessary, plan.

(Johnson, K. et al., 2004)
References


