Strategies to Improve Access to the General Education Curriculum
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Strategies to Improve Access to the General Education Curriculum

Education professionals increasingly focus on identifying programs, practices, and strategies that are research based. To be considered as the highest (“gold”) standard of research based, educational practices must have evidence (a) that is supported by rigorous and scientific data (high quality) and (b) that has a body of studies that demonstrate positive outcomes (high quantity). The No Child Left Behind (NCLB) Act passed in 2001 (www.nclb.gov) and many federal grant programs call on educators to use scientifically-based research to drive their decisions about educational interventions.

To be considered scientifically based, research should be objective, empirical, replicable, have valid and reliable data, use particular research designs, and use rigorous data analysis (See Identifying and Implementing Educational Practices Supported by Rigorous Evidence: A User-Friendly Guide. Available at: www.ed.gov/rschstat/research/pubs/rigorousevid/guide_pg3.html).

In general, more research needs to be conducted that uses the “gold standard” of scientific rigor. In addition, more careful review of existing research needs to occur in order to evaluate and synthesize evidence relating to programs and practices. As an example, the U.S. Department of Education has funded the What Works Clearinghouse (www.w-w-c.org) to serve as an independent source of scientific evidence of what works in education. However, such careful and systematic reviews take an enormous amount of time and manpower.

In the meantime, a body of research does suggest that specific programs and practices are effective with particular students. Increasing exposure to such research-supported instructional methods and practices, materials and media, and supports and accommodations will help students with disabilities effectively engage in learning general education curriculum content.

The strategies that appear in this chart have varying levels of research support. The Access Center classifies strategies on a continuum depending on their research base. “Green light” strategies are evidenced based practices while “yellow light” strategies are promising practices but require further validation and thus should be used with caution. Analysts at the Access Center use several approaches for classifying the level of research that supports each strategy. For some strategies we borrowed guidelines used for the Current Practice Alerts developed by the Division of Learning Disabilities and the Division of Research of the Council for Exceptional Children (CEC). Where we highlight strategies that were not included in CEC’s Current Practice Alerts, we rely on the research continuum developed by the Access Center to classify practices and on experts who bring their knowledge of research-based practices. (http://www.k8accesscenter.org/training_resources/reasearchapproach.asp)

The Access Center identifies the approach used for classifying each strategy in the chart.

To assist state and local technical assistance providers and administrators in selecting research-supported practices, the professionals at the Access Center compiled information on strategies in the following areas: Instructional Methods and Practices, Media and Materials, Supports and Accommodations, and Assessment. The following information is provided for each research-supported practice:

- **Student Characteristics Addressed:** specifies the types of challenges the strategy targets
- **Practice Description:** gives specific information regarding the use of the strategy
• *How It Improves Access*: explains how effective implementation can improve access to the general education curriculum for students with disabilities
• *Supporting Research*: identifies sources of findings on the practice
• *Implications for Practice*: outlines considerations for implementation, including costs
• *Sources of Additional Information*: lists additional websites and resources for more information about the practice

In addition, several of the research-supported practices include links to content-area “applications.” These applications expand on the practice and provide an explanation of how it can be used within a particular content area.

The Access Center will continue to expand this list and provide additional information about these and other research-supported interventions on our website ([www.k8accesscenter.org/](http://www.k8accesscenter.org/)) as they become available. Check back frequently for more resources and information about effective practices to improve access to the general education curriculum for students with disabilities.
### Instructional Strategies

*Instructional Strategies – Methods that can be used to deliver a variety of content objectives. How a course of study/curriculum should be taught.*

### Differentiated Instruction

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
</table>
| Access Center Research Continuum | Differentiated instruction –  
- addresses student readiness, which includes prior knowledge and skills  
- addresses student interest  
- addresses a student's learning profile, which includes learning style, environmental factors that affect the student's learning, and the student's grouping preferences | Teachers diagnose student readiness, interest, and learning profile. Instruction incorporates specific strategies that meet the needs of students and are based on the curriculum being presented. On-going assessment allows teachers to adjust instruction in response to student needs. | Enables students to access information using modalities that best meet their needs. Information is presented at students' individual readiness levels. | Requires time for planning and implementation.  
May require support from administration and co-teachers.  
May require a high level of student investment. |

**Application to -**

- **Math**
- **Reading**
- **Writing**
- **Science**

**Supporting Research**

Qualitative and meta-analysis research indicate:

That students in differentiated classrooms achieve better outcomes than students in classrooms without differentiation (Csikszentmihalyi, Rathunde, & Whalen, 1993; Tomlinson, Brighton, Hertberg, Callahan, Moon, Brimijoin, et al., 2003)

When instructional materials are differentiated to meet student needs, interests, and readiness, academic gains increase (Kulik & Kulik, 1991; Lou, Abrami, Spence, Poulsen, Chambers, & d’Apollonia, 1996).
**Instructional Strategies**

*Instructional Strategies – Methods that can be used to deliver a variety of content objectives. How a course of study/curriculum should be taught.*

## Computer Assisted Instruction (CAI)

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children with –</td>
<td>Computer programs or high-tech equipment provide content instruction to students to enable them to meet standards and goals.</td>
<td>Allows multiple means of interacting with curricular materials</td>
<td>Allows great flexibility in use because it is not subject specific</td>
</tr>
<tr>
<td></td>
<td>Fine motor challenges</td>
<td>Sample features–</td>
<td></td>
<td>Requires professional development for use in classrooms</td>
</tr>
<tr>
<td></td>
<td>Attention deficit</td>
<td>Independent instruction for student</td>
<td></td>
<td>Requires purchase of technology and software if not currently available</td>
</tr>
<tr>
<td></td>
<td>Minimal organizational strategies</td>
<td>May measure student skill and progress</td>
<td></td>
<td>Requires that individuals with expertise be available for trouble shooting</td>
</tr>
<tr>
<td></td>
<td>Difficulty decoding and comprehending text</td>
<td>Interactive</td>
<td></td>
<td>Requires time for teacher planning and instructing students to use software</td>
</tr>
<tr>
<td></td>
<td>Communication delays</td>
<td>Immediate feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weak problem-solving skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difficulty with abstract concepts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Application to -
- **Math**
- **Reading**
- **Writing**
- **Science**

### Supporting Research

CAI may be an academic motivator for students with disabilities (Hitchcock & Noonan, 2000).

CAI increases wait time and builds on mastered skills (Hitchcock & Noonan, 2000; Zimmerman, 1998).

Effectiveness is attributed to the higher interaction required for responses and active learning (Lahm, 1996).

Varying results of effectiveness from research (Kroesbergen & Van Luit, 2003)
### Instructional Strategies

*Instructional Strategies – Methods that can be used to deliver a variety of content objectives. How a course of study/curriculum should be taught.*

### Concrete, Representations (Semi concrete), and Abstract Sequence of Mathematics Instruction (CRA or CSA)

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Center Research Continuum</td>
<td>Students who are in general education, at risk and/or in special education Students with difficulties in these areas— using symbols and abstract mathematical concepts processing information sustaining attention to task monitoring and self-regulating performing basic math skills reasoning and using problem-solving skills</td>
<td>Three phases— Concrete phase of mathematical concept uses hands-on manipulatives Representations phase uses pictorial display Abstract phase uses numerical symbols or algebraic letters of abstract mathematical concepts Repetition of different types of manipulatives or representations of same concept Graduated and conceptually supported framework for creating connection between C–R–A levels of understanding</td>
<td>Enables children to— retrieve background knowledge and become confident with an approach to reason Provides a path for more complex problem-solving situations Addresses student learning styles by providing visual, tactile, and kinesthetic experiences Allows group or individual instruction Allows students to move in a structured way from concrete to abstract concepts through pictorial representations such as charts, graphs, symbols, and diagrams Facilitates abstract reasoning with numerical symbols</td>
<td>May require purchase of commercial materials (e.g., number cubes, fraction bars, geometric figures) May require time to practice repetition of sequence to establish understanding of concept May require professional development for teachers to learn to model concrete and visual materials establishing links to abstract concepts</td>
</tr>
</tbody>
</table>

### Supporting Research

- Builds a foundation with structured concrete materials for developing concepts in number sense, geometry, statistics, story problems, and measurement (Bruni & Silverman, 1986; NCTM, 2000)
- Develops more precise and comprehensive mental representations (Suydam & Higgins, 1977)
- Allows students to understand numerical symbols and abstract equations at a concrete level (Devlin, 2000; Maccini & Gagnon, 2000)
- Facilitates learning place value (Peterson, Mercer, O’Shea, 1988)
- Facilitates development of computation skills (Mastropieri, Scruggs, & Shiah, 1991)
- Promotes acquisition and retention of arithmetic facts and mathematics concepts (Miller & Mercer, 1993)
### Instructional Strategies

**Instructional Strategies** – Methods that can be used to deliver a variety of content objectives. How a course of study/curriculum should be taught.

#### Grouping Strategies

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Center Research Continuum</td>
<td>Children with – Communication delays Delays in mathematical concepts Difficulty decoding and comprehending text Weak problem-solving skills Difficulty with abstract concepts Lack of organizational skills Lack of attention</td>
<td>After assessing students' needs, teachers plan activities using various types of groups to ensure that students’ needs and interests are targeted Example groupings include pairing, smaller teacher-led groups, and multiple grouping (vary the grouping from day to day) formats.</td>
<td>Enables teachers to use various types of groups to ensure that children have appropriate models and individual attention to facilitate access</td>
<td>Requires sophisticated classroom management skills Requires time to plan and evaluate with other team members (who may be working with groups or individuals)</td>
</tr>
</tbody>
</table>

#### Supporting Research

Flexible grouping allows teachers to meet the needs of specific children while targeting interests (NCREL)

Groups provide opportunities for improved social and academic interaction (Johnson & Johnson, 2000; Vaughn et al., 2001)

In comparison studies, students in alternative groupings (compared with traditional whole class grouping) for reading demonstrated higher success rates for students with disabilities (Elbaum et al., 2000)
### Instructional Strategies

*Instructional Strategies – Methods that can be used to deliver a variety of content objectives. How a course of study/curriculum should be taught.*

#### Grouping Strategies - Peer Assisted Learning Strategies (PALS)

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Center</td>
<td>Children with –</td>
<td>Students interact</td>
<td></td>
<td>Provides a complement to current reading and mathematics curricula</td>
</tr>
<tr>
<td></td>
<td>Difficulty decoding and</td>
<td>through “coach/</td>
<td></td>
<td>Requires a set period of time for implementation: 25–35 mins/2 or3 times a week</td>
</tr>
<tr>
<td></td>
<td>comprehending text</td>
<td>player” pairings in</td>
<td></td>
<td>Requires professional development (workshop training and teacher manual)</td>
</tr>
<tr>
<td></td>
<td>Communication delays</td>
<td>structured</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delays in mathematical concepts</td>
<td>cooperative-learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difficulty with abstract</td>
<td>activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>concepts</td>
<td>Students support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Noncompliant behaviors</td>
<td>each other through</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aggressive behaviors</td>
<td>frequent oral</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Lack of attention</td>
<td>interaction,</td>
<td></td>
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<tr>
<td></td>
<td>Lack of organizational skills</td>
<td>feedback, and</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>reinforcement.</td>
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</tr>
</tbody>
</table>

**How It Improves Access**

- Groups students with and without disabilities to assist with comprehension of general education content
- Programs are available in reading for grades preschool–6 and mathematics for grades K–6.

**Implications for Practice**

- Provides a complement to current reading and mathematics curricula
- Requires a set period of time for implementation: 25–35 mins/2 or3 times a week
- Requires professional development (workshop training and teacher manual)

#### Supporting Research

PALS is approved by the U.S. Department of Education’s Program Effectiveness Panel for Inclusion in the National Diffusion Network on effective educational practices (John F. Kennedy Center for Research on Human Development, 1999).

- Improves student test performance on a number of reading measures (Fuchs, Fuchs, Mathes, & Simmons, 1997; Fuchs, & Fuchs, 1998).

PALS enables students to make connections with abstract mathematical concepts (Fuchs, Fuchs, 01; Fuchs et al., 1997).
Instructional Strategies

Instructional Strategies – Methods that can be used to deliver a variety of content objectives. How a course of study/curriculum should be taught.

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Instruction</td>
<td>At risk students including those students with disadvantaging conditions, including students with disabilities and those from various social and economic levels. Struggling readers who have difficulty decoding and comprehending text. Primarily a pre-K-6 program, however also proven effective with secondary, adult special education and remedial students.</td>
<td>An explicit, teacher-directed instructional model. The focus of DI is curriculum design and instructional delivery. Major program features include: • research tested curriculum • systematic and explicit instruction • coaches/facilitators • rapid pace • achievement grouping • scripted class sessions • intense, constant student interaction • teaching to mastery • frequent assessments</td>
<td>Access to the general education curriculum is of little value unless ALL students have the opportunity to gain the skills necessary for academic success. Direct Instruction has been proven to be an effective strategy in improving the reading skills of struggling readers, regardless of reason. Since reading is the foundational skill for all learning, the ability to read well is essential for ALL students’ success in the general education curriculum. Direct instruction has been proven to be an effective instructional strategy in reading, language arts, spelling and math; all fundamental skills required for success in the general curriculum.</td>
<td>Will require the purchase of a commercial program and materials based on this instructional model. Will require professional development and implementation supports to insure fidelity of implementation. Teachers and support personnel must be prepared for the program’s fast pace and the structured, repetitive nature of the program. Must have teacher buy-in. Teachers must be fully informed of the research that supports Direct Instruction as being a proven effective instructional model. May require in-class coaches for implementation support.</td>
</tr>
</tbody>
</table>

Supporting Research


**Learning Strategies**


Students do this.

### Learning Strategies

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children with –</td>
<td>Techniques, principles, or rules help students acquire, store, use, and retrieve information in various settings.</td>
<td>Enables students to learn and remember key concepts, thus enabling students to actively engage in curriculum content</td>
<td>Requires professional development (e.g., different learning strategies, their benefits and uses)</td>
</tr>
</tbody>
</table>
|                             | Difficulty decoding and comprehending text | According to NICHY (1997a), learning strategies generally fall into two categories—  
- Cognitive (i.e., task-specific, such as taking notes, making an outline, and asking questions  
- Metacognitive (i.e., self-regulation, such as goal-setting, self-monitoring, and self-questioning). | Helps students learn how to learn and allows them to become independent learners | Requires teachers to plan time to teach these learning strategies |
|                             | Communication delays             |                      | Increases students’ confidence in their academic abilities | Several models for teaching learning strategies are discussed in the literature (e.g., SIM, self-regulated learners, and cognitive instruction) |
|                             | Lack of organizational skills    |                      |                        |                          |
|                             | Weak problem-solving skills     |                      |                        |                          |
|                             | Difficulty with abstract concepts|                      |                        |                          |
|                             | Delays in mathematical concepts  |                      |                        |                          |
|                             | Short- and long-term memory problems |                      |                        |                          |

**Application to -**

- **Math**

**Supporting Research**

Students show improved independence in completing tasks, including improved reading comprehension (Alley & Deshler, 1979).

Students better understand individual learning process (NICHY, 1997a)

Students give more attention to learning (NICHY, 1997a)
Learning Strategies


<table>
<thead>
<tr>
<th>Mnemonics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research-Supported Practice</strong></td>
</tr>
<tr>
<td>Mnemonics improves memory by linking new information to current knowledge through visual and verbal cues.</td>
</tr>
</tbody>
</table>

**CEC Guidelines**

**Supporting Research**

Strategy is effective for increasing comprehension test scores (Mastropieri, Sweda, & Scruggs, 2000; Uberti, Scruggs, & Mastropieri, 2003).

Gains have been shown on criterion-referenced tests and criterion-referenced measures (Swanson, 1999; Forness, Kavale, Blum, & Lloyd, 1997).
Adapted Books/Texts

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children with –</td>
<td>Texts and general</td>
<td>Students spend a large amount of time interacting with text, much of which is developmentally inappropriate or inaccessible to different types of learners.</td>
<td>Requires teachers and specialists to identify specific goals and add adaptations to books or create adapted books to accommodate and individualize for students in classrooms.</td>
</tr>
<tr>
<td></td>
<td>Difficulty decoding and</td>
<td>general education</td>
<td></td>
<td>Requires time to create and collaborate on books.</td>
</tr>
<tr>
<td></td>
<td>comprehending text</td>
<td>materials are</td>
<td></td>
<td>Can be expensive depending on the quantity and level of technology involved.</td>
</tr>
<tr>
<td></td>
<td>Communication delays</td>
<td>modified.</td>
<td></td>
<td>Requires time to teach children how to use adapted books and may need one-on-one or small-group support while learning.</td>
</tr>
<tr>
<td></td>
<td>Lack of organizational skills</td>
<td>Low-technology</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>materials (e.g.,</td>
<td></td>
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<td></td>
<td></td>
<td>stickers, fabric,</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>glue, highlighting)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gross/fine motor deficiencies</td>
<td>High-technology</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>materials (e.g.,</td>
<td></td>
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<td></td>
<td></td>
<td>talking switches,</td>
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<td></td>
<td></td>
<td>communication devices,</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>talking books software,</td>
<td></td>
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<td></td>
<td></td>
<td>textbooks on</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>tape)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cognitive delays</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visual impairments</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Lack of attention</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supporting Research

Student differences significantly affect how they perceive and process information (Curry, 2003).

Adapted texts allow more individuals to participate in the curriculum (Higgins, Boone, & Lovitt, 2002; Robinson, 2000).
<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom environment</td>
<td>Children with –</td>
<td>Classroom environment ensures accessible literacy experiences through—</td>
<td>Provides students access to literacy by immersing them in an environment of print</td>
<td>Requires that teachers have time to set up the environment, such as labeling everything with pictures and words</td>
</tr>
<tr>
<td></td>
<td>Difficulty decoding and</td>
<td>Labels (pictorial and word)</td>
<td>Provides students multiple opportunities for interaction with literacy (through words and books), which enables them to interact with the general education curriculum</td>
<td>Requires resources to purchase materials, such as books and magazines</td>
</tr>
<tr>
<td></td>
<td>comprehending text</td>
<td>Large supplies of books</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communication delays</td>
<td>Multiple writing opportunities (pencils/paper, computer, typewriter, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of literacy-rich</td>
<td>Reading opportunities during school day</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>environment outside of school</td>
<td>Teachers engage in language and literacy activities throughout instruction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students actively engage in reading and writing projects throughout the curriculum.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Supporting Research**

Opportunities to engage in reading and writing activities increase literacy skills when connected to the real-world experiences of students with disabilities (Katims & Pierce, 1995).

Opportunities to explore literature and intentional instruction facilitate development (Gunn, Simmons, & Kameenui, 1995; Snow, Burns, & Griffin, 1999; Whitehurst, 2003).
<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
</table>
| Access Center Research Continuum | Children with – Needs for related services provided by more than one specialist Needs for paraprofessional support Issues needing the expertise of more than one individual | Teachers and related service providers meet on a regular basis to problem solve, plan, and implement strategies to ensure that each student is able to participate in the general education curriculum. Collaboration partners vary depending on student need. Sample collaborators—  
- Regular and special educators  
- Regular, special, and speech educators, occupational therapists, physical therapists, nurses, and psychologists | Creates communication and support among multiple service providers Enhances and builds on the student’s access to the general education curriculum Ensures that all providers integrate their services with one another | Requires that teachers and related service providers communicate and send one message to parents and child  
Builds on partner strengths to ensure that lessons are accessible to students with disabilities  
Requires that time be built into the schedule for collaborative planning, implementation, and evaluation  
Requires that teachers be willing to share their space and welcome other professionals into their teaching  
Requires time and effort to build trust |

**Supporting Research**

Collaboration streamlines instruction, prevents removal of students from general education classrooms, and ensures the integration of goals and standards to create success within the curriculum (Flemming & Monda-Amaya, 2001; Friend & Cook, 2000).

Academic growth for students with severe emotional disabilities is attributed to more teacher attention, reduced teacher-pupil ratios, and more individual assistance provided through collaboration (Carter, 2000).
<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children with –</td>
<td>CBM is a valid and reliable form of curriculum-based assessment.</td>
<td>Assesses students’ progress toward year-end academic goal</td>
<td>Allows teachers to easily track progress over time</td>
</tr>
<tr>
<td></td>
<td>Communication delays</td>
<td>CBM monitors academic progress in basic skills with short (1–3 minute) probes of reading, spelling mathematics, and writing fluency.</td>
<td>Monitors students on an ongoing basis, provides information about students’ strengths and areas for improvement</td>
<td>Allows teachers to evaluate effects of interventions</td>
</tr>
<tr>
<td></td>
<td>Delays in mathematical concepts</td>
<td>The student’s progress is measured against self and class.</td>
<td>Allows teachers to recognize learning difficulties and make immediate instructional changes that meet students’ needs</td>
<td>Requires minimal time for teachers to learn CBM method</td>
</tr>
<tr>
<td></td>
<td>Difficulty decoding and comprehending text</td>
<td>CBM allows for data-based decision making through a multiple-step process involving testing, analysis, and planning.</td>
<td>Requires time to develop assessment probes and measures</td>
<td>Computerized versions available</td>
</tr>
<tr>
<td></td>
<td>Weak problem-solving skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difficulty with abstract concepts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of organizational skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of attention</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Supporting Research**

Students with disabilities demonstrated increased academic growth rates in reading with use of CBM assessments (Deno, Fuchs, Marston, & Shinn, 2001).

Students worked more quickly and accurately and became more active learners (Phillips, Fuchs, & Fuchs, 1994).
## Functional Behavior Assessments (FBA)

<table>
<thead>
<tr>
<th>Research-Supported Practice</th>
<th>Student Characteristics Addressed</th>
<th>Practice Description</th>
<th>How It Improves Access</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children with –</td>
<td>Teachers and</td>
<td>Allows teachers to</td>
<td>Requires time to watch and</td>
</tr>
<tr>
<td></td>
<td>Noncompliant behaviors</td>
<td>specialists select</td>
<td>examine the environment and its effect on students, adapt their teaching behaviors and the environment to meet student needs</td>
<td>analyze behaviors</td>
</tr>
<tr>
<td></td>
<td>Aggressive behaviors</td>
<td>a target behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communication delays</td>
<td>then record the</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weak problem-solving skills</td>
<td>antecedent (incidents immediately before the targeted behavior), the behavior, and the consequence that occurs when the targeted behavior is demonstrated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of attention</td>
<td>Information collected from observations is used to create a positive behavioral support plan and environment.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Supporting Research

The OSEP 22nd annual report to Congress recommended its use as a means to individualizing to meet specific students’ needs (OSEP, 2000; Miller, Tansy, & Hughes, 1998; Miller, 2001).

Functional Behavior Assessments (FBAs) are effective in reducing problem behaviors because they are aligned with the IEP process in monitoring the accomplishment of student goals (Shippen, Simpson, & Crites, 2003).
References

**Differentiated Instruction**


**Web Resources**


Hotllinx was developed by the University of Virginia. It provides strategies, lesson plans, unit plans, and assessments to support differentiated instruction. Available at [http://www.hottlinx.org/](http://www.hottlinx.org/)

**Computer Assisted Instruction**


**Web Resources**


CAST. Available at [http://www.cast.org/](http://www.cast.org/)
Concrete, Representations (Semiconcrete), and Abstract Sequence of Mathematics Instruction (CRA or CSA)


Grouping Strategies


Web Resources


Peer Assisted Learning Strategies (PALS)


Web Resources

PALS (Vanderbilt University) [http://kc.vanderbilt.edu/kennedy/pals](http://kc.vanderbilt.edu/kennedy/pals)

Peer Assisted Learning Strategies in Reading [http://www.ldonline.org/ld_indepth/reading-peer_assisted.html](http://www.ldonline.org/ld_indepth/reading-peer_assisted.html)


Professional Collaboration


Learning Strategies


Web Resources


Mnemonics


Web Resources


Tutorial on Mnemonics by Division of Learning Disabilities of CEC (Member’s only section of website) Available at www.teachingld.org

Also see references for Learning Strategies section.

Adapted Books and Text


Technology specialists in your district

Web Resources

CAST. Available at [http://www.cast.org/](http://www.cast.org/)


Literacy Rich Environments


Web Resources


Curriculum-Based Measurement


Web Resources


Functional Behavior Assessments


Web Resources


