

# Evidenced-Based Practices

## Manual

## MOSAIC

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## **Universal Design for Learning (UDL)**

### ***What is it?***

Universal Design for Learning or UDL is a framework and guidelines for education that designs teaching to address the learning needs of a broad possible range of students in a flexible manner. UDL is organized around three principles.

- I. To support recognition learning, provide multiple means of representation (ways to present for learning).
- II. To support strategic learning, provide multiple means of action and expression (how to express learning)
- III. To support affective learning, provide multiple means of engagement (why of learning, motivation).

Based on these three principles, nine evidence-based guidelines are provided to teachers to encourage them to design instruction and curriculum that is inclusive and effective for all students.

1. Provide options for perception.
2. Provide options for language and symbols
3. Provide options for comprehension
4. Provide options for physical action
5. Provide options for expressive skills and fluency
6. Provide options for executive functions
7. Provide options for recruiting interest
8. Provide options for sustaining effort and persistence
9. Provide options for self-regulation (CAST, 2008)

UDL can be actualized within lessons, materials, instructional units or curriculum to improve student participation and achievement by removing potential barriers.

There is evidence supporting the effectiveness of UDL applications in various subject areas and across all grade spans. It has been shown that the core practices, instructional elements and specific application of UDL have merit. At this point there is limited research on large-scale adoption at the school or district level. (Rose & Gravel, 2010)

### ***Why is it important?***

UDL is based on research into the design of conducive learning environments and the nature of learning differences. As Secondary Educators MOSAIC graduates will be responsible for developing, delivering, and advocating for instruction that is responsive to the needs of a wide array of students. UDL provides a systematic framework for this essential practice.

***References***

Rose, D.H., & Gravel, J.W.(2010). Universal Design for learning. In P. Peterson, E. Baker & B.McGraw (eds.), International encyclopedia of education (pp.119-124). Oxford: Elsevier.

CAST (2008). Universal Design for Learning Guidelines Version 1.0. Wakefield, MA: Author.

***Web Links***

CAST, Universal Design for Learning  
<http://cast.org>

NIMAS Development and Technical Assistance Centers  
<http://nimas.cast.org>

National Center on Universal Design for Learning  
<http://www.udlcenter.org>

## Least Restrictive Environment

### *What is it?*

Education provided in the Least Restrictive Environment (LRE) means that students with disabilities are educated with their peers without disabilities to the maximum extent appropriate. The Individuals with Disabilities Act (IDEA) mandated that:

*To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and that special classes, separate schooling, or other removal children with disabilities from the regular [general] education environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (IDEA, 2004, PL 108-446, Sec. 614[d])*

Federal regulations require school districts to have a continuum of educational placements available to meet the individual needs of students. The continuum progresses from the most restrictive educational delivery system being homebound or hospital instructional programs to the least restrictive environment of a general education classroom with no specialized assistance. In between these two extremes on the LRE continuum are residential facilities, separate school facilities, separate classes and part-time resource room options.

(Hardman, Egan, & Drew 2011)

### *Why is it important?*

The issue of LRE is increasingly important as the special education population grows. The number of school-age children with disabilities is increasing at a faster rate than general school enrollment. A large number of these students have high-incidence disabilities and will be educated in general education settings along with their non-disabled peers.

Although most of the Special Education community agrees with the principles of LRE there is discussion about how to best implement it in practice. Early advocates focused on the setting of the LRE to address issues of inequity and segregation. (Turnbull, 1994) Others have extended the conversation to focus on the context of supports and opportunities for meaningful participation beyond the “placement” decision. (Rueda, Gallego, & Moll, 2000).

In 2005 a settlement was reached between parties representing Lydia Gaskin and the Pennsylvania Department of Education in 2005. The settlement requires monitoring of Pennsylvania school districts regarding their implementation of LRE. PDE agreed to conduct more onsite training for schools and adapt the IEP policies and documentation to

ensure schools consider a wide range of supplementary services and supports to promote access to and success in general education classrooms.

### ***References***

Hardman, M.L., Drew, C.J., Egan, M.W. & Wolf, B. (2011) Human Exceptionality, Society, School and Family (10th Edition), Boston: Allyn and Bacon.

Rueda, R., Gallego, M.A., & Moll, L.C. (2000) The least restrictive environment: A place or a context? *Remedial and Special Education*, 21(2).

Turnbull, H.R. (1994) *Free appropriate education: The law and children with disabilities*. Denver, CO: Love.

Yell, M.L. (1995) Least restrictive environment, inclusion, and students with disabilities: analysis and commentary, *Journal of Special Education*, 28(4).

### ***Web Links***

U.S. Department of Education

<http://idea.ed.gov/explore/view/p/.root.statute,I,B,612,a,5>,

## **Inclusion**

### ***What is it?***

Inclusive education means students with disabilities receive the services and supports appropriate for their individual needs within the general education setting. Inclusion can be characterized by the extent to which services are provided for the student within the general education classroom. Full Inclusion implies that all instruction and support services are provided in the general education classroom. Partial inclusion means that students with disabilities receive some of their educational services and instruction in a general education class but also receive a portion of these services in another instructional setting when appropriate.

Research indicates that Inclusive Schools are most effective when careful attention is paid the following characteristics:

- Diversity, acceptance and belonging are promoted.
- Formal and informal support networks are provided.
- Placement is based on age appropriate neighborhood schools.
- Meaningful participation with the general education curriculum.
- Instructional support is provided to all students through multidisciplinary collaboration. (Hardman, Egan, & Drew 2011)

### ***Why is it important?***

Inclusive education grew out of the Regular Education Initiative inspired by parent and professional concerns that the distinction between general education and special education promoted isolation and created an ineffective and discriminatory system. Inclusive education was designed to promote improved social interaction and access to more rigorous academic experiences for students with disabilities. These conditions are necessary to support the integration of students with disabilities in society. Inclusive school experiences can promote more successful transition to adult life. Researchers have effectively argued that caution needs to be applied in making inclusive education decisions to ensure that students with disabilities continue to receive the instruction models and services that have been proven to be effective in the past (Zigmond, Kloo, & Volonino, 2009).

### ***References***

Hardman, M.L., Drew, C.J., Egan, M.W. & Wolf, B. (2011) Human Exceptionality, Society, School and Family (10th Edition), Boston: Allyn and Bacon.

Zigmond, N., Kloo, A. and Volonino, V. (2009) What, where, and how? Special education in the climate of full inclusion, *Exceptionality*, 17(4): 189–204.

### ***Web Links***



Inclusive Schools Network  
<http://inclusiveschools.org/>

## Positive Behavior Support

### *What is it?*

Positive Behavior Support (PBS) is an application of applied behavior principles. It is designed to decrease problem behavior and increase appropriate behavior by manipulating environmental events such as antecedents and consequences. PBS has combined assessment and instructional strategies to prevent the occurrence of problem behavior. The strategies such as shaping, fading, and chaining are included in student's behavior plan. Prior to determining intervention strategies, students who need PBS plan are identified through functional behavior assessment procedures. Some methods of measurement encompass teacher and parent self-reports (using behavioral checklist), observation, and functional analysis. Based on the function of the behavior, positive behavior strategies that will help student decrease inappropriate behaviors can be identified (Alberto & Troutman, 2009).

### *Why is it important?*

The occurrence of problem behavior prevents students from learning and results in limited instructional time for students who engage in problem behavior. Moreover, environment will not be safe for other students who receive education. To ensure safety for all students, PBS applies principles of behavior to improve the lives of individual students. Because PBS identifies why student engages in problem behavior and under what conditions problem behavior is occurred it can alter conditions to improve students' appropriate behavior and reduce problem behavior (Alberto & Troutman, 2009).

### *References*

Alberto, P.A. & Troutman, A.C. (2009). Providing for Generalization of Behavior Change. In *Applied Behavior Analysis for Teachers* (pp. 341-365). Upper Saddle River: New Jersey.

### *Web Links*

Positive Behavior Interventions and Supports  
[www.pbis.org](http://www.pbis.org)

## Response to Intervention (RTI)

### *What is it?*

Response to Intervention or RTI is a framework in which tiers or layers of increasingly intensive instruction are provided to students who fail to demonstrate adequate levels of academic gain. In the most recent reauthorization of IDEA, this process may be used to identify students with specific learning disabilities (SLD) and entitle them to special education services. The model was initially conceptualized for elementary students with reading difficulties. In this model, young students would receive an evidence-based core reading program (i.e., Tier 1). Students who failed to benefit from this instruction (e.g., failed to achieve an appropriate benchmark on a progress monitoring measure) would be provided with additional, more intensive instruction or Tier 2 (e.g., 30 additional minutes of daily reading instruction provided in a small group). Students who failed to demonstrate appropriate response after a predetermined amount of time (e.g., 12 weeks) would be referred to a more intensive tier (e.g., Tier 3) in which additional adaptations would be made to individualize and intensify the instruction. Although the structures of RTI models vary, in most, this would represent a referral to special education. RTI is increasingly being implemented in secondary schools as well. However, it is less clear whether RTI should play the same role for older students (See King, Hill, & Lemons, 2012).

### *Why is it important?*

RTI is a framework that schools use (a) to provide increasingly intensive interventions to students who are struggling academically, and (b) to identify students with SLD. It's incorporation into IDEA dramatically increased the implementation in schools. It is likely that MOSAIC graduates will be involved in RTI in some capacity upon taking a teaching job (regardless of whether the job is general or special education). RTI is important because it may reduce the number of students referred to special education and it assists schools in providing supplemental services to students at risk for academic failure.

### *References*

Fuchs, D., Fuchs, L. S., & Compton, D. L. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78*(3), 263-279.

King, S. A., Lemons, C. J., & Hill, D. R. (2012). Response to intervention in secondary schools: Considerations for administrators. *NASSP Bulletin, 12*, 5-22. doi: 10.1177/0192636511430551

### *Web Links*

IRIS Center – RTI: An Overview:

[http://iris.peabody.vanderbilt.edu/rti01\\_overview/chalcycle.htm](http://iris.peabody.vanderbilt.edu/rti01_overview/chalcycle.htm)

## Parent Participation

### *What is it?*

Parental participation is a key component of the special education services. Educators may employ a number of strategies to optimize parental participation in the development of the individualized education plan (IEP) and overcome potential barriers to collaboration (e.g., cultural differences, challenges related to language; Dabkowski, 2004). Person-centered planning (PCP; Keyes & Owens-Johnson, 2003) emphasizes a strength-based consideration of the student that results in a personalized vision of the future for the individual and plans for achieving that vision. The PCP process, though flexible and informal, typically involves the inclusion of multiple family members who assist the student in generating a personal profile, describing a desirable future, planning for the attainment of the student's goals, and a clear plan for monitoring the implementation of the program. PCP is an adaptive technique used in a variety of placements for children who encompass a diverse range of age groups and disabilities.

The Choosing Outcomes and Accommodations for Children (COACH; e.g., Giangreco, Cloninger, & Iverson, 2011) is an assessment and planning process designed to assist school personnel in working collaboratively with families to develop IEPs for students with high incidence disabilities. The COACH process begins with a family interview that allows families to identify the highest priority learning goals for their child. Additional learning outcomes are identified from the general educational curriculum. Finally, families are encouraged to identify supports to be provided to or for students. Throughout the COACH process, educators are encouraged to elicit opinions from family members and actively involve the family in the creation of educational supports.

### *Why is it important?*

Educators possess both legal and theoretical reasons for involving parents in the education process. The Individuals with Disabilities Education Act (IDEA) requires educators to involve parents in decisions about assessment and the IEP. IDEA further obligates schools to ensure parental participation through procedural safeguards and rights, including the right of parents to provide consent to initial evaluations for special education eligibility and placement, revoke consent for services, and pursue their right to due process in the event of disagreements with the school. In addition, research has identified numerous benefits of parent participation in the special education assessment process and generation of the IEP (Turnbull, Turnbull, Erwin, Sodak, & Shogren, 2011). Findings suggest that students whose parents are more engaged with school show higher academic and behavioral achievement, improved attendance, and higher aspirations for postsecondary education (Ferguson, 2008).

### *References*

Dabkowski, D. M. (2004). Encouraging active parent participation in IEP team meetings. *Teaching Exceptional Children, 36*(3), 34-39.

Ferguson, C. (2008). *The school-family connection: Looking at the larger picture*. Austin, TX: Southwest Educational Development Laboratories.

Ginagrecó, M. F., Cloninger, C. J., & Iverson, V. S. (2011). *Choosing outcomes and accommodations for children (COACH): A guide to educational planning for students with disabilities* (3<sup>rd</sup> ed.). Baltimore: Brookes.

Keyes, M. W., & Owens-Johnson, L. (2003). Developing person-centered IEPs. *Intervention in School & Clinic*, 38, 145-152.

Turnbull, A., Turnbull, R., Erwin, E. J., Soodak, L. C., & Shogren, K. A. (2011). *Families, professionals, and exceptionality: Positive outcomes through partnerships and trust* (6<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson.

## Curriculum-Based Measurement (CBM)

### *What is it?*

Curriculum-based measurement (CBM) is a set of methods used to index academic competence and progress (Fuchs & Fuchs, 2002). CBM is designed to be an efficient, reliable, and valid assessment of academic performance. Each assessment samples a relatively broad range of skills by sampling from each dimension of the annual curriculum. This sampling allows progress to be measured on equivalent forms across the academic year. CBM is widely used in reading, mathematics, and writing (See Hosp, Hosp, & Howell, 2007). Current research is examining the benefits of CBM in content area classes (e.g., social studies and science).

The two most common reading CBM used in secondary classrooms are Oral Reading Fluency (ORF) and MAZE. For ORF, students are presented with a grade-level passage and are asked to read the passage aloud. The student's score is the total number of words read correctly in 1 minute. For MAZE, students are presented with a grade-level passage from which every 7<sup>th</sup> word has been deleted and replaced with three choices (including the deleted item) to complete the sentence. Students are given 2.5 minutes to read the passage silently and circle the correct items to complete the sentences. Student performance can be compared to established beginning, middle, and end-of-year benchmarks and the data can be used to track student responsiveness to intervention.

### *Why is it important?*

CBM is a critical feature of Response-to-Intervention (RTI). CBM is often the key assessment used to evaluate student responsiveness to increasingly intensive levels of intervention. Both special and general educators should be prepared to administer, interpret, and graph CBM data.

### *References*

- Deno, S. L. (2003). Developments in curriculum-based measurement. *The Journal of Special Education, 37*(3), 184-192. doi: 10.1177/00224669030370030801
- Fuchs, L.S., & Fuchs, D. (2002). Describing competence, enhancing outcomes, evaluating treatment effects, and identifying treatment nonresponders. *Peabody Journal of Education, 77*(2), 64-84.
- Hosp, M. K., Hosp, J. L., & Howell, K. W. (2007). *The ABCs of CBM: A Practical Guide to Curriculum-Based Measurement*. New York: Guilford.

### *Web Links*

IRIS Module: Classroom Assessment (Part 1): An Introduction to Monitoring Academic Achievement in the Classroom (<http://iris.peabody.vanderbilt.edu/gpm/chalcycle.htm>)

National Center on Response to Intervention (<http://www.rti4success.org/>)

## Eligibility Assessment

### *What is it?*

Eligibility for special education services under the Individuals with Disabilities Education Act (IDEA) requires the school to establish a causal link between a student's documented disability and impaired functioning. The procedures for determining whether a student is eligible for special education includes three key steps: (a) referral—the school district, parents, or the state request evaluation and obtain parental consent; (b) evaluation—school professionals evaluate the student and determine the presence of a qualifying disability; and (c) eligibility—school professionals and parents meet to determine the child's eligibility for special education. Although medical professionals typically diagnose severe disabilities, high-incidence evaluations (e.g., specific learning disability [SLD], emotional disturbance [ED]) incorporate standardized tests batteries and input from parents and teachers.

Specific eligibility assessment procedures vary according to factors such as locale and the composition of the evaluation team. Nonetheless, a number of systematic practices are available that encourage educators to use multiple sources of information in the timely determination of special education eligibility. In addition to IQ tests and other standardized forms of assessment, students with SLD are increasingly identified using Response-to-Intervention models (RTI; Ahearn, 2009) that determine eligibility based on their responsiveness to progressively intensive forms of remediation. Students whose academic performance does not improve following multiple “tiers” of remediation may require special education services. The Systematic Screening for Behavioral Disorders (SSBD; Severson, Walker, Hope-Doolittle, Kratochwill, & Gresham, 2007) represents a standardized method for identifying students with ED across three levels of assessment. Educators rank students based on the exhibition of problem behaviors (e.g., depression, aggression). Students with severe behavior characteristics are assessed using more detailed measures (e.g., the Critical Life Events Checklist). Students who score below the norm are assessed by outside professionals and, depending on the results, may be referred to special education.

### *Why is it important?*

The identification of students with disabilities is a fundamental role of special education. Additional consideration is warranted due to the numerous ethical issues related to eligibility determination, including: (a) reconciling the needs of students with the necessity of controlling costs, and (b) the long-term consequences of excluding students from special education versus the short-term consequences of including children who fall on the borderline of a disability category. The emergence of empirically valid assessment procedures provides educators with a potentially powerful tool in providing services to students with disabilities.



***References***

Ahearn, E. M. (2009). State eligibility requirements for specific learning disabilities. *Communication Disorders Quarterly, 30*(2), 120-128.

Severson, H. H., Walker, H. M., Hope-Doolittle, J. Kratochwill, T. R., & Gresham, F. M. (2007). Proactive, early screening to detect behaviorally at-risk students: Issues, approaches, emerging innovations, and professional practices. *Journal of School Psychology, 45*, 193-223.

## Accommodations Assessment

### *What is it?*

The terms used to describe changes made to improve access and meaningful interface with educational assessment for students with disabilities have been widely misunderstood, and are confusing for both educators and parents. *Accommodations for assessments* are changes in test-taking environments or materials that do not result in changes to the *content* of the assessment. Since changes to testing materials can be made without making the test easier (like using Braille, or large-print text) the term “assessment accommodation” can be said to represent changes to the assessment materials or procedures that *do not alter the validity of the testing result*.

*Assessment modifications*, on the other hand, are changes to the materials or procedures end up producing invalid test scores. These changes would make the test easier to take for typical students as well as for those with disabilities (an example of this would be to read a section of a test aloud to a student). Despite the differences in these two terms, the word “accommodation” is still used in policy standards as a general term referring to both.

### *Why is it important?*

Researchers have tried to facilitate decision-making about the validity of assessment modification/accommodation procedures by examining differences between students with and without disabilities. Using this measurement, the degree to which a modification offers a differential boost is calculated, to determine if the advantage it would offer a typical student is offset by the differentially larger benefit to the student with a disability. Universally designed assessments are another way that researchers are currently seeking to make assessment materials meaningful for the broadest possible range of students while preserving the usefulness of the score standard.

### *References*

Cook, B.G. & Tankersly, M. (2013). Accommodations for Assessment. In A. Davis (Ed), *Research-Based Practices in Special Education* (pp.311-327). Boston: Pearson.

## Functional Behavior Assessment

### *What is it?*

Functional Behavior Assessment (FBA) is aim to identify the type and source of reinforcement that maintains problem behavior. The idea behind the FBA is to determine reinforcement contingencies for problem behavior; develop interventions to decrease the occurrence of these behaviors; and increase adaptive behavior by altering these contingencies. Because many behaviors are learned through positive, negative, and/or automatic reinforcement each behavior has a function. These functions (e.g., attention condition, escape condition, tangible condition, play condition, and alone condition) can be assessed by using FBA methods. These methods are functional analysis, descriptive assessment, and indirect assessment (Neef, & Peterson, 2007).

### *Why is it important?*

While the topography of behavior demonstrates little useful information about under which conditions behavior occurs, the function of the behavior reveals useful information that shows which when, how, and why behavior occurs. Thanks to this useful knowledge, educators make interventions that aim to manipulate environmental variables (e.g., antecedent variables) to decrease problem behavior. In other words, FBA can lead to effective interventions by altering antecedent variables to prevent problem behavior, identifying reinforcement contingencies, and selecting appropriate reinforcement for alternative replacement behavior (Neef, & Peterson, 2007).

### *References*

Neef, & Peterson (2007). *Functional Behavior Assessment*. In J.O. Cooper, T.E. Heron, & W.L. Heward, *Applied behavior analysis* (2<sup>nd</sup> ed, p. 500-524). Upper Saddle River, NJ: Pearson/ Merrill Prentice Hall

### *Web Links*

Information on using FBAs

<http://cecp.air.org/fba/default.asp>

## Functional Analysis (FA)

### *What is it?*

A functional analysis is a term used by Skinner (1953) to illustrate the cause and effect relationship between environmental factors and behavior (Hanley, Iwata, & McCord, 2003). It describes a range of experimental conditions in which environmental stimuli and events are manipulated in order to determine the function of a behavior. It is part of a larger assessment called a Functional Behavior Assessment (FBA). A FBA is used to improve problem behavior by identifying variables of control to be later used to implement behavioral treatment (Horner, 1994). The functional analysis procedure relies on four areas that control problem behavior: attention, escape, automatic reinforcement, and tangible items. This type of analysis has proven to be powerful by evidencing the environmental factors that evoke problem behavior (Carr, 1994) and maintain it over time (Iwata & Dozier, 2008). Although the process for conducting a FA varies, there are several key components that must always be present. Each FA consists of a test condition, assessment of reinforcers, and precise procedures. To ensure a FA is efficient, control should be demonstrated over the dependent variable, independent variable/treatment and confounding variables.

There are several variations of a FA, these include: full, brief, single-function, alone series, precursor, latency, and trial-based. Each variation has specific guidelines and reasons for executing it. Each type of FA requires an adequate amount of training, as the practitioner must adhere to a pre-determined and consistent sequence of interactions. Other factors must also be considered when implementing a FA, such as ability to limit environmental conditions, amount of time, severity of problem behavior, and resources (Iwata & Dozier, 2008).

### *Why is it important?*

It is important for practitioners to discover how/why a problem behavior is maintained prior to trying to reduce it. Without this type of empirical demonstration the function of problem behavior may never be uncovered, resulting in inefficient behavioral interventions. Indirect forms of behavioral assessment continue to be used; yet they continue to be unreliable and yield inadequate interventions (Iwata & Dozier, 2008). Severe and harmful behaviors often produce a required reaction from caregivers, educators, and practitioners that end up strengthening the behavior. Behaviors requiring intervention also tend to be disruptive and interrupt education and work. Using an approach, such as a FA, that helps to identify the underlying function of behavior greatly improves the quality and efficiency of the treatment (Iwata & Dozier, 2008).

### *References*

Carr E.G. (1994). Emerging themes in the functional analysis of problem behavior. *Journal of Applied Behavior Analysis*, 27(2), 393-399.

Hanley, G.P., Iwata, B.A., & McCord, B.E. (2003). Functional analysis of problem behavior: A review. *Journal of Applied Behavior Analysis*, 36(2), 147-185.

Horner, R.H. (1994). Functional assessment: Contributions and future directions. *Journal of Applied Behavior Analysis*, 27(2), 401-404.

Iwata, Brian., & Dozier, C.L. (2008) Clinical application of functional analysis methodology. *Behavior Analysis Practice*, 1(1), 3-9.

Skinner, B. F. (1953). *Science and human behavior*. New York: Macmillan.

**Web Links:**

Association for Behavior Analysis International: <http://www.abainternational.org/aba.asp>

Behavior Analysis Incorporated: <http://www.behavior-analysis.org>

Applied Behavior Analysis Resources <http://www.behaviorbabe.com/apps/links/>

## Curriculum-Based Assessment (CBA)

### *What is it?*

Curriculum-based assessment (CBA) is an evaluation process that makes use of academic content selected directly from the material taught. This is a form of criterion-referenced assessment that connects evaluation with instructional programs by informing teachers of both student progress and learning challenges. A key characteristic of CBA is that it provides a form of direct measurement where teachers are assessing precisely what they teach, which is not always the case with indirect or norm-referenced assessments that do not necessarily reflect the specific material covered in particular classroom.

Various approaches to CBA make use of direct, ongoing measurement involving brief probes or other discreet measures that are focused on the direct skills, content, and context of a given classroom. Most probes take between 1 and 5 minutes to administer and are generally easy to score, making CBA a form of ongoing assessment of student performance over time. Frequent collection of data is typically graphed for visual analysis enabling an ability to target emerging skills, error patterns, or skills in need of remediation.

Examples of CBA strategies and procedures include miscue and error analysis to assess issues in reading such as additions, substitutions, omissions, reversals, or reading words not displayed in a text. Informal reading inventories may be used to establish appropriate reading materials for students or group placement in reading groups. Checklists and rating scales can be used to record detail student performance systematically. The collection of student work samples may also be used as a portfolio assessment to collect student work that is in progress in addition to final products for evaluation.

### *Why is it important?*

The use of CBA is a student-centered approach to evaluating and documenting student progress that provides teachers with a valuable tool for planning, delivering, and assessing instruction. The simple, yet ongoing nature of CBA means that educators can make regular use of assessment procedures in order to continually modify and adapt instructional objectives while individualizing instruction as needed.

### *References*

Burns, M.K. (2002). Utilizing a comprehensive system of assessment to intervention using curriculum-based assessments. *Intervention in School and Clinic, 38*, 8-13.

Cook, B.G., & Tankersley. (2013). *Research-based practices in special education*. Boston: Pearson Education, Inc.

***Web Links***

National Center on Student Progress Monitoring: <http://www.studentprogress.org/>

## Data-Based Decision Making

### *What is it?*

Data-based decision making involves using the information collected about student performance and responsiveness through screening and progress monitoring (i.e., data) to systematically determine how the school will best enhance student outcomes through increasingly intensive layers of support (i.e., decision making). Data-based decision making is the fundamental core of Response-to-Intervention (RTI). Decision-making often entails making changes to the instruction or intervention provided a specific student. It may also involve making changes to school-wide instruction and intervention efforts. (e.g., implement a core vocabulary intervention across all content area classes).

### *Why is it important?*

Response-to-Intervention does not function without decision-making based upon data. In secondary schools, decision-making often involves a wider array of variables than at the elementary level. General and special educators should be (a) knowledgeable of the various data used to evaluate RTI at the secondary level, and (b) should be prepared to collect and interpret these data to evaluate student response and instructional effectiveness.

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Fuchs, D., Fuchs, L. S., & Compton, D. L. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78*(3), 263-279.

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). Using student achievement data to support instructional decision making (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://ies.ed.gov/ncee/wwc/publications/practiceguides/>.

### *Web Links*

Building RTI Capacity – Using Data to Differentiate Intervention Instruction: A Middle School Example [Audio-enhanced PowerPoint presentation]  
[[http://buildingrti.utexas.org/CAP/Using\\_Data/Using\\_Data.swf](http://buildingrti.utexas.org/CAP/Using_Data/Using_Data.swf)]

National Center on Response to Intervention – Data-Based Decision Making Resources  
([http://www.rti4success.org/categorycontents/data-based\\_decision\\_making](http://www.rti4success.org/categorycontents/data-based_decision_making))

Smart RTI: A Next Generation Approach to Multi-Level Prevention [Webinar by Doug Fuchs]  
(<http://www.rti4success.org/webinar/smart-rti-next-generation-approach-multi-level-prevention-3106>)



## Progress Monitoring

### *What is it?*

Progress monitoring is scientifically based practice used to assess both academic performance of students and the effectiveness of instruction (see National Center on Student Progress Monitoring, link below). Teachers implement progress monitoring by evaluating a student's current level of performance, establishing meaningful goals for the student to reach over time, and assessing advancement toward these goals on a frequent (e.g., weekly, monthly) basis. Student performance is used to determine when instructional changes may be needed to ensure the student meets the established goal in a timely manner. Curriculum-based measurement (CBM) is the most common assessment used to monitor student progress.

### *Why is it important?*

Research has demonstrated that monitoring student progress is associated with greater student outcomes. Teachers who use data to evaluate student performance on a frequent basis are able to adjust instruction to meet student needs more efficiently and effectively than teachers who rely on end-of-year summative assessments. Progress monitoring is a critical feature of Response-to-intervention (RTI) and general and special education teachers should be familiar with how to implement and interpret progress monitoring data.

### *References*

Fuchs, L.S., Deno, S.L., & Mirkin, P.K. (1984). The effects of frequent curriculum-based measurement and evaluation on pedagogy, student achievement, and student awareness of learning. *American Educational Research Journal*, 21(2), 449-460.

Reed, D.K., Wexler, J., & Vaughn, S. (2012). *RTI for reading at the secondary level: Recommended literacy practices and remaining questions*. New York, NY: Guilford Press.

### *Web Links*

National Center on Response to Intervention – Progress Monitoring Resources  
([http://www.rti4success.org/categorycontents/progress\\_monitoring](http://www.rti4success.org/categorycontents/progress_monitoring))

National Center on Student Progress Monitoring  
(<http://www.studentprogress.org/default.asp>)

## Precision Teaching

### *What is it?*

Precision Teaching (PT), originated by Ogden Lindsley, emanated from the work of B. F. Skinner (White, 1986). The PT process covers five major tenets regarding instruction and assessment: learner knows best, identify directly observable behaviors, measure frequency of behavior, employ the standard celeration chart, describe and analysis the environment affecting behavior (White, 1986). As a supplement to traditional instruction, teachers can use PT in two major ways – assessment and practice. Due to the fine grained analysis of behavior and measurably superior data display, teachers can uniquely examine and assess behavior in time (Kubina & Yurich, 2012). Based on those assessments, teachers can identify and adapt to each student’s needs with accurate frequency building practice procedures.

### *Why is it important?*

Secondary students can benefit from PT in a variety of ways. All topics and academic areas contain elemental skills that combine to form compound knowledge. Within difficult material (i.e., content area), teachers can identify core measurable academic behaviors to assess all students, not just those with disabilities. Once identified and following instruction, teachers can implement frequency building exercises on important behaviors influencing future instruction and performance. In Chemistry, for example, students must rely on knowledge of the periodic table of the elements, a bedrock skill, as they advance through the course. Implementing PT, allows teachers to assess instruction and prior knowledge of the chart. They then can incorporate an individualized, systematic practice dedicated to promoting fluent identification of elemental symbols at a certain rate. Progressing in this manner would assist all students in future skills involving the use of the elemental names. The process can continue throughout the year on other identified skills and in other content areas.

### *References*

Kubina, R. M., & Yurich, K. (2012). *The Precision Teaching Book*. Lemont, PA: Greatness Achieved.

White, O. R. (1986). Precision teaching—Precision learning. *Exceptional Children*, 52, 522-534

### *Web Links*

Celeration.org - Website focused on Precision Teaching and Standard Celeration Charting: [www.celeration.org](http://www.celeration.org)

## Task Analysis

### *What is it?*

Task analysis is the breaking down of a complex skill or activity into a series of smaller steps and then teaching the sequence of steps as a series of cues. Task analysis may be useful for a wide range of student ability, although it is used extensively to assist students with more severe intellectual disabilities.

A behavioral chain makes up the steps used in task analysis so that each response in the chain acts as a cue. In this way, each completed step in a behavioral chain cues the student to move forward until the last step in the chain is accomplished and reinforcement is earned. Proper implementation of task analysis requires the consideration of prerequisite skills that must first be mastered in order for a student to perform a new task sequence. A particular format for task analysis must also be chosen such as forward and backward chaining or total or whole task presentation. Additionally, individual characteristics of students need to be taken into consideration in order to choose for an effective prompting system to teach the task analysis.

### *Why is it important?*

Task analysis has been found to be a useful instructional tool to initially assess what specific skills within a particular task a student may or may not have mastered. The practice puts into a place a plan for how to go about thoughtfully breaking down and teaching a particular set of skills in a way that allows for regular feedback and progress monitoring. Grounded in applied behavior analysis, task analysis has been found to be a most effective practice for individuals with more severe disabilities.

### *References*

Alberto, P.A., & Troutman, A.C. (2009). *Applied behavior analysis for teachers*. (8<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson.

Cook, B.G., & Tankersley. (2013). *Research-based practices in special education*. Upper Saddle River, NJ: Pearson.

### *Web Links*

Modules for Addressing Special Education and Teacher Education:  
<http://mast.ecu.edu/modules/ta/>

Summary of Task Analyses:  
<http://classweb.gmu.edu/ndabbagh/Resources/Resources2/taskanalysis2.htm>

Summary of Chaining and Shaping:  
[http://www.bbbautism.com/aba\\_shaping\\_and\\_chaining.htm](http://www.bbbautism.com/aba_shaping_and_chaining.htm)

## Self-Determination

### *What is it?*

Self-determination has been defined in multiple ways for the last 20 years. However, the underline concept of self-determination involves making personal decisions based on one's interests and beliefs. The component elements of self-determination that are commonly taught to students include choice/decision making, goal setting/attainment, problem solving, self-evaluation/management, self-advocacy, person-centered individualized education planning (IEP), and self-awareness (Wehmeyer & Field, 2007). All of these components emphasize the importance of students actively participating in their educational choices. For students with disabilities, self-determination allows meaningful participation in the IEP process.

### *Why is it important?*

Beginning at age 14, students begin their transition from adolescence to adulthood. Self-determination is an important organizing tool and is essential for successful transition programs (Kohler & Field, 2003). By actively participating in the development of their transition IEP, students can make critical choices and actions that will affect them for a lifetime. Additionally, Wehmeyer and Palmer (2003) report that self-determination skills in high school are significant predictors of post school education and independent living success.

### *References*

Kohler, P., & Field, S. (2003). Transition focused education: Foundation for the future. *The Journal of Special Education, 37*(3), 174-183.

Wehmeyer, M. L., & Field, S. (2007). *Self-determination instructional and support strategies*. Thousand Oaks, CA: Corwin Press.

Wehmeyer, M. L., & Palmer, S. (2003). Adult outcomes for students with cognitive disabilities three years after high school: The impact of self-determination. *Education and Training in Developmental Disabilities, 38*, 131-144.

### *Web Links*

Project 10 Transition Education Network  
<http://www.project10.info/>

National Secondary Transition Technical Assistance Center (nsttac)  
<http://www.nsttac.org/>

## Community Based Instruction

### *What is it?*

Community based instruction (CBI) is effective individualized instruction designed to teach specific skills based on the needs of the student (Bates, Cuvo, Miner, & Korabek, 2001). Students learn and apply vocational and independent functioning skills in various real life settings under the supervision of a teacher or other support staff. CBI is typically taken as a high school course for credit during the student's junior or senior year. Before a student begins CBI, an IEP meeting is conducted and the team develops educational goals for the student. Once the IEP goals are written, a schedule and placement are established and the student begins his or her CBI. The ultimate goal of CBI is to prepare students for successful transition to adulthood after high school graduation. Other benefits of CBI are an enhanced quality of life and to provide skills to help the student live and work independently (Wehman & Kregel, 2004).

### *Why is it important?*

Community based instruction provides students with disabilities the opportunity to learn independent functioning and job related skills in a natural environment (e.g. actual places of employment) instead of learning simulated job skills in the classroom. Research shows that persons with disabilities often have difficulty in generalizing skills and learning abstract concepts (Bates, Cuvo, Miner, & Korabek, 2001). Therefore, "learning by doing" opportunities must be provided for these students and the learning must take place in the natural environments in which skills are typically expected to occur.

### *References*

Bates, P. E., Cuvo, T., Miner, C. A., & Korabek, C. A. (2001). Simulated and community-based instruction involving persons with mild and moderate mental retardation. *Research in developmental disabilities, 22*(2), 95-115.

Wehman, P., & Kregel, J. (2004). *Functional curriculum for elementary, middle, and secondary age students with special needs*. PRO-ED, Inc. 8700 Shoal Creek Blvd, Austin, TX 78757.

### *Web Links*

Transition Community Network  
<http://www.tcntransition.org/index.php>

National Center on Response to Intervention  
<http://www.rti4success.org/>

## Assistive Technology (AT)

### *What is it?*

Assistive technology (AT) is usually classified as either a device or a service. An AT device is any item that is used to improve the functioning of a student with a disability (Pierce & Porter, 1996). AT devices can be complex (such as an augmentative communication device), or simple (a picture attached to a board by Velcro). An AT service simply includes the maintenance, repairing, supplying and training of the AT device. A student who is eligible for special education is entitled to AT devices and services if they are needed for that student to receive “a free and appropriate public education” (IDEA, 2004). The basic function of all AT is to eliminate or reduce the number of communication barriers caused by a student’s disability.

### *Why is it important?*

The ability to communicate is essential to successful educational outcomes for students with disabilities. Unfortunately, many students with disabilities are unable to communicate either vocally or physically due to motor and sensory impairments. Assistive technology provides students’ with disabilities a tool to communicate their wants and needs (Lancioni, O’Reilly, & Basili, 2001).

### *References*

- Lancioni, G. E., O’Reilly, M. F., & Basili, G. (2001). Use of microswitches and speech output systems with people with severe/profound intellectual or multiple disabilities: A literature review. *Research in Developmental Disabilities, 22*(1), 21-40.
- Pierce, P. L., & Porter, P. B. (1996). Helping Persons with Disabilities to Become Literate Using Assistive Technology Practice and Policy Suggestions. *Focus on Autism and Other Developmental Disabilities, 11*(3), 142-146.

### *Web Links*

The Family Center on Technology and Disability  
<http://www.fctd.info/resources>

Center for Implementing Technology in Education  
<http://www.cited.org/index.aspx?page>

## Instructional Technology

### *What is it?*

The use of instructional technology to support learning is bolstered by a growing body of research that explores its usefulness in teaching students with a wide range of abilities. As new and improving technology develops and access continues to expand, instructional technology offers a way to teach to a variety of learning styles through flexibility and scaffolding while maintaining student engagement and motivation.

Computer-mediated instruction (CMI) has been a focus in recent years, moving away from the use of software that simply provides drill-and-practice as a model of technology use. CMI integrates technology in a way that is intended to build on prior knowledge in order to scaffold student learning toward higher order thinking and improved problem solving skills. CMI fosters a more interactive learning experience that makes use of multimedia technology that is able to accommodate diverse learners of varying ability and proficiency.

### *Why is it important?*

A main strength of instructional technology is its adaptability. For example, text can be presented in a variety of ways by adjusting font size or making use of read aloud features. Through the use of video, graphics, hypertext, and speech production programs, material is customized and differentiated to meet the needs of individual students. By doing so, students with disabilities are afforded access to curriculum and to general education classrooms in ways that may not have been accommodated in the past.

### *References*

Cook, B.G., & Tankersley. (2013). *Research-based practices in special education*. Boston: Pearson Education, Inc.

### *Web Links*

Association for Educational Communications and Technology (AECT):  
<http://aect.site-ym.com/>

National Instructional Materials Accessibility Standard (NIMAS):  
<http://aim.cast.org/>

Center for Applied Special Technology:  
<http://www.cast.org/index.html>

IRIS Module (Bookshare: Providing Accessible Materials for Students with Print Disabilities):  
<http://www.iriscenter.com/bs/chalcycle.htm>

Instructional Design Knowledge Base:

<http://classweb.gmu.edu/ndabbagh/Resources/IDKB/index.htm>



## Peer-Assisted Learning Strategies (PALS)

### *What is it?*

Peer-Assisted Learning Strategies or PALS is an evidence-based reading intervention implemented as an extension of core classroom reading programs. PALS requires approximately 30 minutes 3 times a week for 16 to 20 weeks to be effective. PALS initially targets struggling readers in the primary grades by pairing readers of higher and lower proficiency to practice skills in phonological awareness, word recognition, phonics, fluency, and comprehension. Structured dialogue about the text is incorporated from grade 2 and higher to address the increased complexity of reading and enhance comprehension. There are also middle and high school versions of the program that increasingly emphasize comprehension skills. Each student in the dyad takes a turn being the reader or coach, allowing for active engagement with the text and increased practice time compared to regular instruction. The teacher is responsible for matching the students' needs and abilities with the proper reading materials and for monitoring their progress. Positive reinforcement through praise and point systems are built into the program to increase on-task time and student motivation.

### *Why is it important?*

Graduates from the MOSAIC program will need access to reading interventions that are evidence-based, easy to implement, and effective for a variety of learners. PALS is important because its structure allows for scaffolding and differentiated instruction in the classroom. It has also been shown through empirically designed research to increase reading outcomes for low, average and high achieving students as well as English Language Learners (ELLs). PALS can be implemented within a Response to Intervention (RtI) framework in accordance with IDEA 2004. Evidence suggests that PALS, when implemented with fidelity in conjunction with Tier-1 instruction, can reduce the number of student placements in Tiers 2 and 3. PALS programs are generally inexpensive and have been described by educators as easy to implement and enjoyable to use.

### *References*

Fuchs, D., Fuchs, L.S., Thompson, A., Yen, L., Al Otaiba, S., Nyman, K., Svenson, E., Yang, N., Prentice, K., Kazdan, S., & Saentz, L. (2001). Peer-assisted learning strategies in reading: Extensions for kindergarten, first grade, and high school. *Remedial and Special Education, 22*, 15-21.

Fuchs, D., Fuchs, L.S., & Burish, P. (2000). Peer-Assisted Learning Strategies: An evidence-based practice to promote reading achievement. *Learning Disabilities Research and Practice, 15*, 85-91.

***Web Links***

Vanderbilt Kennedy Center for Research on Human Development- PALS:  
<http://kc.vanderbilt.edu/pals>

## Class-wide Peer Tutoring (CWPT)

### *What is it?*

Class-wide Peer Tutoring (CWPT) is an intervention in which all students within a classroom are arranged in pairs (one tutor; one tutee) to complete learning activities. Students earn points for competing teams by responding correctly to tasks. The system was originally developed to increase academic achievement in low-income schools and is based on research behind interventions that show improvements in the rate of acquisition of skills via peer-based interventions. The basic components of CWPT are (a) presentation of material that is to be learned or reviewed, (b) teacher created/provided materials to be completed, (c) different pairings each week, (d) pairing techniques (e) students engage in both roles (tutor and tutee) during each CWPT session, (f) team competition to earn the most points, (g) each team member aims to contribute points, (h) prompt responsive feedback provided by tutors when the partner make an error, (i) points earned are displayed for each student and team, and (j) reinforcement provided to the team with the most points. While acting as a tutor (provides prompt) or a tutee (provides response), students are engaged systematized and fast-paced activities in which tutors give consistent feedback to the tutees (See Greenwood et al., 1992; Greenwood & Delquadri, 1995).

### *Why is it important?*

CWPT has the potential to (a) be an effective classroom intervention to increase skill acquisition in reading (WWC, 2007), (b) meet the needs of increasingly diverse classrooms, (c) be implemented with relative ease at the classroom level, and (d) be a socially valid intervention (Maheady & Gard, 2010).

### *References*

- Greenwood, C.R. & Delquadri, J. (1995). Classwide peer tutoring and the prevention of school failure. *Preventing School Failure, 39*(4).
- Greenwood, C.R, Terry, B., Arreaga-Mayer, C., & Finney, R. (1992). The classwide peer tutoring program: Implementation factors moderating students' achievement. *Journal of Applied Behavior Analysis, 25*(1), 101-116.
- Maheady, L. & Gard, J. (2010). Classwide peer tutoring: Practice, theory, research, and personal narrative. *Intervention in School and Clinic, 46*(2), 71-78.
- U.S. Department of Education. Institute of Education Sciences. National Center for Education Evaluation and Regional Assistance. What Works Clearinghouse Intervention report- Beginning reading: Classwide peer tutoring. (9 July 2007).

***Web Links***

Promising Practices Network

<http://www.promisingpractices.net/program.asp?programid=99>

Center for Effective Collaboration and Practice

<http://cecp.air.org/familybriefs/docs/PeerTutoring.pdf>

## Direct Instruction (DI)

### *What is it?*

Direct Instruction (DI) provides students with efficient instruction that ensures students learn the greatest amount of material in the shortest amount of time. Three main components of DI are (a) program design, (b) instructional organization, and (c) student-teacher interactions. DI program design involves the identification of key concepts, rules, and strategies that will be taught and presented via clear and concise programs of instruction. Considerations for organizing instruction include effective and efficient program organization (i.e., schedules, formation of student groups, and continuous student progress monitoring). Student-teacher interactions must be constant and active to ensure students are engaged and are learning the material covered in each lesson. The chart below provides more information about the features within each of the three main components (See Watkins & Slocum, 2003).

<b>DI Component</b>	<b>Features</b>
Program Design	Analyze content, communicate clearly, use specific instructional formats, sequence skills, and build skill <i>tracks</i> instead of units.
Instructional Organization	Group students based on required prerequisite skills, maximize instructional time ( <i>academic learning time</i> ), follow presentation scripts, and continuously monitor progress.
Student-Teacher Interactions	Students actively participate in lessons, utilize group unison responses, use teacher signals to cue group responses, maintain a rapid instructional pace, teach until concepts are mastered, use an immediate and direct error correction procedure, and use appropriate placement to increase motivation.

### *Why is it important?*

According to Project Follow Through, which compared the effectiveness of a variety of instructional approaches, DI was found to be the only approach that resulted in statistically significant improvements in basic skills, cognitive-conceptual, and affective measures. A teacher who uses DI lesson plans ensures that his or her students are receiving evidence-based instruction that has been researched and found to be a valid and reliable method to effectively teach new material to students. With the emphasis on accountability and ensuring the high levels of achievement of all students in today's schools, the use of evidence-based interventions, like DI, is critical (Donlevy, 2010).

### *References*

Donlevy, J. (2010). Teachers, technology, and training: Direct instruction: Structured programs for student success. *International Journal of Instructional Media*, 37(3), 225-226.

Watkins, C. L. & Slocum, T.A. (2003). The components of direct instruction. *Journal of Direct Instruction*, 3(2), 75-110.

***Web Links***

National Institute for Direct Instruction

<http://www.nifdi.org>

Association for Direct Instruction

<http://www.adihome.org>

## Use of Praise

### *What is it?*

Most teachers strive to provide their students a positive climate for learning (Emmer & Evertson, 2009). In combination with other approaches (e.g., classroom rules and expectations, etc.), the effective use of praise helps promote an effective learning environment. Praise consists of the teacher providing approval for student's or students' behavior. When approval is combined with a label for the behavior (i.e., You did a great job putting your books away), teachers make use of descriptive or specific praise. In total, praise has long been known to effectively and efficiently help classroom management concerns as well as academic outcomes (Brophy, 1981). With the primary job of creating student behavior via instruction and practice, teachers who effectively use praise encourage students to continue to perform appropriate pro-social and academic behaviors.

### *Why is it important?*

Praise is a versatile and important teaching tool, because first and foremost teachers consistently have it ready supply. Teachers can attend to students before, during, and after instruction – almost anytime during the school day. Teachers can use praise for both academic (e.g., Way to go! You answered that problem correctly) and social behaviors (Wow. Awesome job taking turns). Teachers can also use praise to supplement and enforce classroom rules such as waiting to answer a question until being acknowledged. Praise not only conveys important meaning to students, but also often acts as positive reinforcement or a way to increase the likelihood of the behavior it follows. When used effectively, praise provides a cost-effective classroom management aide to even the most difficult teaching situations.

### *References*

Brophy, J. (1981). Teacher praise: A functional analysis. *Review of Educational Research*, 51, 5-32

Emmer, E. T., & Evertson, C. M. (2009). *Classroom management for middle and high school teachers*. Upper Saddle River, NJ: Pearson.

### *Web Links*

IRIS Center – Encouraging Appropriate Behavior

[iris.peabody.vanderbilt.edu/case\\_studies/ICS-005.pdf](http://iris.peabody.vanderbilt.edu/case_studies/ICS-005.pdf)

## High Probability Requests

### *What is it?*

High Probability Requests (HPR) is an antecedent-based intervention used to increase compliance through high-probability request sequences (HPRS). The basis for HPR involved presenting several high-probability requests that a person has a history of responding positively to, prior to presenting a request that a person has a low-probability of responding to (noncompliance). There has been a considerable amount of research completed that demonstrates the compliance increases when high probability requests are paired with a low-probability request. Additionally, antecedent-based interventions, such as HPR, have shown to increase compliance when compared to other approaches (Pitts & Dymond, 2011).

The HPR intervention involves quickly presenting 2-3 high probability requests before presenting the low-probability task. Implementing this type of compliance sequence seems to help reduce frustration and lessen the resistance to compliance. By obtaining compliance to high-probability requests, an amount of momentum is built within the response class of behaviors, thus making it likely the person will respond positively to the low-probability request (Banda & Kubina, 2006).

### *Why is it important?*

Handling problem behavior can be quite a challenge for educators and others that work with individuals with behavior difficulties. Noncompliance can have a negative impact on vocational, personal, social, and academic success (Lee, 2005). Specifically, the number of students attending public schools with autism spectrum disorders (ASD) is likely to increase due to the rise in of individuals diagnosed with ASD. Students with ASD tend to experience difficulty with transitioning from task-to-task and can engage in tantrum-like behaviors in response to these transitions. HPR has shown to be helpful by increasing compliance relative to transitions for students with ASD (Banda & Kubina, 2006). Additionally, children with academic and/or behavior problems tend to have much difficulty initiating or completing a requested task within a specific time period due to noncompliant behavior. HPR has been used to help treat noncompliance relative to latency (Wehby & Hollahan, 2000).

### *References*

- Banda, D.R., & Kubina, R.M., Jr. (2006). The effects of high-probability request sequencing technique in enhancing transition behaviors. *Education and Treatment of Children*, 29(3), 507-516.
- Lee, D.L. (2005). Increasing compliance: A quantitative synthesis of applied research on high-probability request sequences. *Exceptionality*, 13(3), 141-154.



Pitts, L., & Dymond, S. (2011) Increasing compliance of children with autism: Effects of programmed reinforcement for high-probability requests and varied inter-instruction intervals. *Research in Autism Spectrum Disorders*, 6, 135-143.

Wehby, J.H., & Hollahan, M.S. (2000). Effects of high-probability requests on the latency to initiate academic tasks. *Journal of Applied Behavior Analysis*, 33(2), 259-262.

### **Web Links**

University of Minnesota: High Probability Request Sequence Videos and Examples  
[http://slhslinux.cla.umn.edu/fullcourse/Module3/Antecedent\\_Focused/maf08.html](http://slhslinux.cla.umn.edu/fullcourse/Module3/Antecedent_Focused/maf08.html)

Professional Development in Autism: Get Connected Tip Sheet  
<http://www.haringcenter.washington.edu/sites/default/files/file/HPR%20Tip%20Sheet.pdf>

## Opportunities to Respond

### *What is it?*

Teachers deliver academic information and experiences to students with the goal of improving student knowledge and outcomes. To verify knowledge, teachers make academic requests, or in other words provide students opportunities to respond (OTR), which prompts active student responding to academic material (Heward, 2009). When students actively engage to opportunities to respond, teachers can evaluate learning, correct errors, and modify instruction. Without prompting, students tend to passively engage with academic content which hinders a teacher's ability to confirm student knowledge.

### *Why is it important?*

Providing students many distinct OTR sets the stage for improving student outcomes (Greenwood et al., 1984). In secondary classroom settings, directly posing questions to individual students allows teachers to assess knowledge and provide immediate error correction. Teachers that can incorporate situations when multiple students can actively interact with information simultaneously (e.g., group discussions, choral responding) increases OTR exponentially (Heward, 2009). Student output can occur in both silent (i.e., written or gestural) and vocal, verbal forms. In response, students that are given more OTR stay more engaged in instruction, demonstrate improved academic outcomes and provide teachers more situations to provide praise (Partin et al., 2010). The combination of OTR, active academic responses, and teacher praise provide a backbone for the educational process.

### *References*

Greenwood, C. R., Delquadri, J.C., & Hall, R.V. (1984). Opportunity to respond and student academic performance. In W.L. Heward, T.E., D.S. Hill, J. Trap-Porter (Eds.), *Focus on behavior analysis in education* (pp. 58-88). Columbus, OH: Merrill.

Heward, W. L. (2009) *Exceptional children: An introduction to special education* (9<sup>th</sup> ed.). Columbus, OH: Merrill.

Partin, T.C., Robertson, R. E., Maggin, D. M., Oliver, R. M. & Wehby, J. H. (2010). Using teacher praise and opportunities to respond to promote appropriate student behavior. *Preventing School Failure*, 54, 172-178.

## Self-Management

### *What is it?*

Teaching students self-management skills means teaching students to be in control of his or her own behavior. When a student has learned to self-manage, the student is reinforced intrinsically (self-directed) rather than externally (teacher/adult directed). Self-management requires the development of clear routines in which students can anticipate when he or she will receive behavior-related feedback. When a student has developed self-management skills he or she has learned to self-reinforce desired behavior by using self-praise or delivering a self-provided tangible reinforcer.

The four essential components of self-management are self-monitoring, self-instruction, self-evaluation/assessment, and self-reinforcement. The chart below provides more detailed information regarding the four major components of self-management (See Jolivet et al., 2013).

<b>Major Component</b>	<b>In collaboration with his or her teacher, a student must...</b>
Self-Monitoring	Acknowledge whether the target behavior occurred and record the occurrence or nonoccurrence of the behavior.
Self-Instruction	Identify the problem, attend to the situation, and work through the plan.
Self-Evaluation/Assessment	Conduct a performance assessment, set observable and realistic goals, develop a schedule for data collection and evaluation, and compare student performance to the goal that was set.
Self-Reinforcement	Identify effective reinforcers, set up a schedule of reinforcement, and decide on rules for reinforcement.

### *Why is it important?*

There have been many important benefits identified in teaching students self-management including (a) improved maintenance of newly acquired positive behaviors, (b) freeing-up teacher time and resources to attend to other issues, (c) building student independence, and (d) enhanced perception of responsibility and ownership over one's own behavior and choices (Jolivet et al., 2013).

### *References*

- Fitzpatrick, M. & Knowlton, E. (2009). Bringing evidence-based self-directed intervention practices to the trenches for students with emotional and behavioral disorders. *Preventing School Failure*. 53(4), 253-266.
- Jolivet, K., Alter, P., Scott, T. M., Josephs, N. L., & Swoszowski, N. C. (2013). Strategies to prevent problem behavior. In Cook, B.G., & Tankersly, M. (Eds.),

*Research-Based Practices in Special Education.* (pp. 149-152). Upper Saddle River, NJ: Pearson. [Hardcover. ISBN:0-13-702-876-8.]

***Web Links***

Teaching Self Management Skills (University of Kansas)

[http://www.specialconnections.ku.edu/?q=behavior\\_plans/positive\\_behavior\\_support\\_interventions/teacher\\_tools/teaching\\_self\\_management\\_skills](http://www.specialconnections.ku.edu/?q=behavior_plans/positive_behavior_support_interventions/teacher_tools/teaching_self_management_skills)

## Choice Making

### *What is it?*

Choice making is an antecedent intervention that generally follows five steps. It is an intervention that is simple to follow and easy to implement throughout the day. Using choice as an intervention has the ability to reduce problem behavior in the classroom. Across most of the research on choice making, 5 steps are typically followed: A) Offering the student or group of students a choice of two or more options, B) Ask for a choice to be made, C) wait for the choice to be made, D) student(s) respond, E) if after a predetermined amount of time a choice has not been made, prompt the student(s) to make a choice, and F) Reinforce the selection by giving the student(s) the item that was chosen. This intervention is preventative and should be implemented prior to the occurrence of problem behavior. Decisions on when to implement should be formulated from data collected on the naturally occurring patterns of problem behavior exhibited by the target student(s).

### *Why is it important?*

Choice making is an important practice for a few basic reasons. It is easy to implement, it is a non-evasive antecedent manipulation, and it can be used with a variety of students or for a variety of problem behaviors.

### *References*

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Shogren, R. E., & Faggella-Luby, M. N., Bae, A. J., & Wehmeyer, M. L. (2004). The effect of choice-making as an intervention for problem behavior: A meta-analysis. *Journal of Positive Behavior Interventions*, 6, 228-237.

### *Web Links*

[http://www.bridgeschool.org/transition/multimodal/choice\\_making.php](http://www.bridgeschool.org/transition/multimodal/choice_making.php)

[http://www.cdd.unm.edu/autism/autism\\_course/modules/behavior/choice/index.htm](http://www.cdd.unm.edu/autism/autism_course/modules/behavior/choice/index.htm)

## Pre-Correction

### *What is it?*

Pre-correction is a very simple tool that can be used to “get ahead” of problem behavior. Just as its name suggests, it is an antecedent manipulation that occurs *before* the onset of the targeted problem behavior. To use Pre-Correction properly, it is important to first understand the target behavior and the circumstances under which that behavior occurs. Predicting behavior means anticipating when it will occur, or understanding the antecedents. For example, if a student generally calls out of turn when the teacher presents a question to the class, the teacher might first state, “remember to raise your hand when you want to speak” prior to asking the class her question. The teacher knows that asking a question to the class is an antecedent for calling out. By placing a verbal prompt (“remember to raise your hand”) before the antecedent (asking the question) she is lowering the chances the target behavior (calling out) will occur. The next step in the process involves replacement behaviors. To rid an aberrant behavior from a child’s repertoire is more effective when an appropriate replacement behavior can take its place. The new appropriate behavior is an opportunity for reinforcement. The final component of Pre-Correction is delivering reinforcement. Consistency and potency of reinforcement contribute to the effectiveness of replacing behavior when using Pre-Correction.

### *Why is it important?*

There are a few basic reasons that Pre-correction is an important skill to bring to the classroom. The primary reason is that it is *simple*. By identifying antecedents, predicting the onset of aberrant behavior, and reinforcing the absence of that behavior a teacher can accurately use the Pre-Correction model.

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- Haydon, T., & Scott, T. M. (2008). Using common sense in common settings: Active supervision and pre-correction in the morning gym. *Intervention in School and Clinic, 43*, 283-290.

## Graphic Organizer

### ***What is it?***

A graphic organizer is a visual representation of text elements or text structures, ideas or causal connections. Story elements from text are placed in graphic shapes, one per shape such as circles or squares. Arrows show direction and connections between each of the story elements. When viewed together these elements show the basis for understanding the story. These elements might explain the order of events of a story, or all the elements involved in the story such as setting, characters, and plot. The visual map of text elements supports the student in understanding relationships between story elements and causal order of events.

### ***Why is it important?***

Research suggests that graphic organizers may improve the content and quality of information children report even after a significant delay between exposure to information and the oral reporting. Helping students gain explicit knowledge of text structures may improve their conceptual knowledge that supports their understanding.

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Kim, A., Vaughn, S., Wanzek, J., & Wei, S. (2004). Graphic organizers and their effects on the reading comprehension of students with LD: A synthesis of research. *Journal of Learning Disabilities*, 37(2), 105-118.  
Doi: 10.1177/00222194040370020201

## Mnemonics

### *What is it?*

Mnemonics are techniques that aid memory by transferring abstract information into forms that are more relatable, personal, or concrete. The Keyword Method identifies a word that sounds similar to information to be remembered and pairs them together. For example, to remember that a ranidae is a word for common frogs, students might use the keyword, rain. The teacher can then show students a picture of a frog in the rain or carrying an umbrella. The teacher rehearses with the students making sure that the connection between the keyword and vocabulary word is established. Another mnemonic technique, the Pegword Method, substitutes a word for a number and is especially useful for remembering ordered information. To remember that a spider has eight legs, a student would associate the number 8 with the word gate. Then, an image is shown to the student of a spider sitting on a gate. Letter Strategies such as acronyms [HOMES= Great Lakes: Huron, Ontario, Michigan, Erie, Superior] and acrostics [My very educated mother just served us nine pizzas= the order of the planets] have been successfully used to remember lists of information.

### *Why is it Important?*

Increasingly, students with high-incidence disabilities (HID) are being educated in mainstream classrooms in secondary schools. However, students with HID may need additional supports and learning strategies in order to be successful in these academically challenging environments. Students with high incidence disabilities (HID) often have memory deficits in several areas, including short term, long term, procedural and declarative. Mnemonic strategies support learning for students with HID, and enhance outcomes for typical peers in regular education classrooms as well, making them a valuable resource to scaffold learning without unnecessarily drawing potentially negative attention to students who are struggling. Research has shown that mnemonics are effective, evidence-based instructional devices in foreign language, English, social studies and science.

### *References*

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Mastropieri, M. A., and Scruggs, T. E., (1989). Mnemonic social studies instruction: classroom applications. *Remedial and Special Education*, 10(3), 40-46.

Scruggs, T. E., Mastropieri, M. A., Berkeley, S., and Marshak, L. (2010) Mnemonic Strategies: Evidence-Based Practice and Practice-Based Evidence. *Intervention in School and Clinic*. 46 79-86.

### *Web Links*

LD Online Website- <http://www.ldonline.org/article/5912>  
<http://www.ict4us.com/mnemonics/>



## Cognitive Strategy Instruction

### *What is it?*

Effective cognitive strategy instruction is a teaching technique in which students are taught powerful procedures that help them accomplish a variety of academic tasks. It brings awareness to the cognitive tools that strong readers, writers and mathematicians rely on daily. The strategies that are explicitly taught would otherwise never be discovered by the student. There are various cognitive strategies that have been proven to be successful for students, with each variation following a flexible framework. This framework includes the following components: pre-skill development, review of current strategies used, presentation and discussion of a new cognitive strategy, model and personalization of the strategy, mastery of the strategy, performance of the task with fading prompts, and independent performance (Harris & Pressley, 1991).

### *Why is it important?*

As Deshler and Schumaker (1986) shared the complex nature of intervention and academic success/failure can not be attributed to one single approach, therefore, cognitive strategy instruction is one viable tool that should be in each special educator's repertoire. In order for students to successfully function within the realm of higher education and in the workplace, they need be equipped with cognitive strategies needed to handle complex and unfamiliar situations. Cognitive strategy instruction also strives to transition educators from focusing specifically on teaching topics to teaching students how to think (Conley, 2008). Additionally, students with mild to moderate disabilities experience much difficulty in academic tasks that are learned more readily by their typically developing peers, which creates many obstacles throughout their educational career. Research completed by Deshler and colleagues (Deshler, Alley, Warner & Schumaker, 1981; Deshler & Lenz, 1989) has shown that cognitive learning strategies are an effective and powerful approach for students with disabilities. These strategies encourage independence and participation in learning, and are easy to teach and implement (Lauterbach & Bender, 1995).

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Lauterbach, S.L., & Bender, W.N. (1995). Cognitive strategy instruction for reading comprehension: A success for high school freshman. *The High School Journal*, 79(1), 58-64.

### ***Web Links***

University of Nebraska-Lincoln: Cognitive Strategy Instruction:  
<http://cehs.unl.edu/csi/index.shtml>

Self Regulated Strategy Instruction PPT:  
[http://www.youtube.com/watch?v=SqSq\\_RMe3Cg](http://www.youtube.com/watch?v=SqSq_RMe3Cg)

ELL & Cognitive Learning Strategies:  
<http://www.youtube.com/watch?v=siNy5vXWbOY>

## Scaffolding/Differentiated Instruction

### *What is it?*

Scaffolding and differentiated instruction are ways of providing instruction to students based on their learning needs (Tomlinson, 2001). Scaffolding entails cognitively supporting learners as they progress toward a goal, gradually shifting responsibility from the teacher to the student as the student becomes more able. Differentiated instruction includes adaptations to curricula to meet the needs of individuals. Common criticisms of these kinds of supports and adaptations are that students may be stigmatized by the perception of receiving preferential treatment or that the curriculum is not rigorous enough. An approach to differentiation that uses the same curriculum for all students is called, differentiated curriculum enhancements (Mastropieri et al., 2006). Differentiation occurs in small-group or peer-tutoring arrangements. Students with special learning needs are given extra practice, increased time with materials that are less difficult, and elaborative learning strategies. Three examples of differentiated curriculum enhancements that have been used in science and social studies classes are fact sheets, differentiated activities and embedded mnemonic elaboration.

### *Why is it important?*

Teachers are likely to have students of mixed abilities present in the classes they teach. Research demonstrates that students with high incidence disabilities achieve more when they are given more time, engaged in relevant activities, and questioned about information directly related to objectives. Elaboration of information and activation of prior knowledge are also key to supporting students with learning disabilities. Adapting instruction to allow students with learning difficulties access to the general curriculum is critical to their success.

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Tomlinson, C. A. (2001) *How to differentiate instruction in mixed-ability classrooms*. (2<sup>nd</sup> ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

### *Web Links*

The Iris Center for Training Enhancements-  
<http://iris.peabody.vanderbilt.edu/resources.html>

## Accommodations

### *What is it?*

Accommodations refer to the procedural elements of instruction and assessment that do not make meaningful changes to content including, changing methods of administration or response, or arranging alternate settings, scheduling or timing. Reducing distractions and extending time are frequently utilized accommodations (Pitoniak & Royer, 2001). However, research has shown that teacher recommended accommodations do not always result in improved outcomes for students with disabilities (Fuchs & Fuchs, 2001; Fuchs, Fuchs, Eaton, Hamlett, & Karns, 2000; Fuchs, Fuchs, Eaton, Hamlett, Binkley, et al., 2000). Teachers have flexibility choosing accommodations for curriculum based measurements (CBM), but less freedom with more formal, standardized tests. It has been suggested that widespread use of Universal Design for Learning (UDL) would limit the need for accommodations.

### *Why is it important?*

Accommodations are designed to remove obstacles preventing students with disabilities the ability to demonstrate their skills and knowledge accurately (Sireci, 2006). It is important that IEPs contain accommodations that address the student's disability, have a history of effectiveness, remain consistent with test content and do not invalidate tests or contradict testing procedures (S. N. Elliott et al., 2002). Because most students are required to participate in standardized state assessments without modifications, judicious use of accommodations can aid students with learning disabilities to successfully complete high-stakes exams.

### *References*

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- Fuchs, L. S., Fuchs, D. Eaton, S. B., Hamlett, C. L., and Karns, K. M. (2000). Supplementing teacher judgments of mathematics test accommodations with objective data sources. *School Psychology Review*, 29(1), 66-85.
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- Pitoniak, M. J., and Royer, J. M. (2001). Testing accommodations for examinees with disabilities: A review of psychometric, legal, and social policy issues. *Review of Educational Research*, 71(1), 53-104.

***Web Links***

Pearson- <http://www.pearsonassessments.com>

Nat'l Dissemination Center for Children with Disabilities-  
<http://nichcy.org/schoolage/accommodations>

## Direct/ Explicit Instruction

### *What is it?*

Broadly defined, direct instruction is a set of pedagogical practices derived from an empirical, behaviorally informed theoretical foundation and can encompass teacher behaviors, classroom organization, and elements of curricular and instructional design (Gersten, 1985). Direct instruction describes any practice where the instructor plays a prominent role in presenting information to students. In this conception, the terms “teacher-centered” or “teacher-led” are sometimes used interchangeably with direct instruction and refer to any type of academic instruction that is directed by the teacher, irrespective of the content or quality. According to Rosenshine (2008), however, direct instruction is a multifaceted concept with direct empirical and theoretical influences. Specifically, direct instruction represents the culmination of studies regarding effective teaching, cognitive strategy instruction, and the Distar curriculum.

### *Why is it important?*

Several studies have favorably compared direct instruction to other approaches. Kavale (2007) found that direct instruction was more effective for special education students than instruction based on individualized learning styles. As more schools adopt systems such as RTI to prevent academic failure, remediate gaps in learning, and identify students with LD, general educators and special educators (as well as other professionals such as school psychologists and administrators) will need to collaborate to ensure all children receive quality, research based instruction and intervention services that can address the specific needs of the students. The premise of tiered intervention is that students will receive, high-quality, evidence-based instruction in the general education setting (Tier 1; Fuchs, Mock, Morgan & Young, 2003). If a student is not responsive to practices and curricula that have empirically demonstrated effectiveness for the majority of students, the student will progress through successive levels of more intensive and individualized instruction before receiving a referral for special education services. In such a structure, it is imperative that the Tier 1 instruction is of sufficient quality to produce the most positive outcomes for the majority of the students.

### *References*

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Rosenshine, B. (2008). *Five meanings of direct instruction*. Retrieved from Center on Innovation & Improvement website:<http://www.centerii.org/search/Resources/FiveDirectInstruct.pdf>

***Web Links***

Nat'l Insitute for Direct Instruction- <http://www.nifdi.org>

Association for Diect Instruction- <http://www.adihome.org>

Siegfried (Zig) Engelmann & DI- <http://www.zigsite.com>

## Prompting

### *What is it?*

A prompt is an antecedent stimulus that strives to evoke the occurrence of a response. Prompts are typically used when naturally occurring stimuli do not produce a desired response independently. They are also described as extra instructions, gestures, or demonstrations that help cue a learner to display specific behavior and/or correct responses. For example, when someone says hello, a natural response is to respond with a corresponding greeting. However, a child with autism may not naturally reciprocate the greeting unless a prompt is delivered. This child's mother may prompt her child by modeling an appropriate greeting, and then instruct her child say the same greeting.

There are several categories of prompts, with some of the most common being verbal prompts, modeling, manual prompts (i.e., physical contact), gestural prompts, visual cues, and textual prompts. Prompting is an essential part of behavioral therapy, but they must be used carefully in order to be effective. The practitioner must understand when and how to use increasing assistance, decreasing assistance, stimulus fading, graduated guidance, and delay procedures (MacDuff, Krantz, & McClannahan, 2001).

### *Why is it important?*

Learners with disabilities experience numerous challenges in regard to acquiring the skills needed to live independently. Often times their repertoire of skills do not evolve as easily as others. Research has shown that in order to develop useful skill-sets, students with disabilities require additional practice and repetition of skills correctly. Prompts are one way to help students develop new skills and engage in functional responses. Prompts are a valuable tool when teaching novel and desirable behavior (MacDuff, Krantz, & McClannahan, 2001).

Prompting also meets the criteria for being deemed an evidence-based practice as it has more than five single-subject design studies that demonstrate its effectiveness in language development, communication, and all academic domains. It has also been shown effective across all three age groups (i.e., preschool, elementary, secondary). Additionally, it has been shown useful with both typically developing individuals as well as students with disabilities (Neitzel & Wolery, 2009).

### *References*

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Neitzel, J., & Wolery, M. (2009). Overview of prompting. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

***Web Links***

ABA Autism Training-Prompting <http://www.youtube.com/watch?v=TDijjKHMVQ>

Prompting PP Presentation:

[faculty.caldwell.edu/sreeve/ED%20556%20Prompting%20updated.ppt](http://faculty.caldwell.edu/sreeve/ED%20556%20Prompting%20updated.ppt)

## Self-Regulated Strategy Development (SRSD)

### *What is it?*

Self-Regulation Strategy Development (SRSD) is one of the approaches for teaching writing strategies explicitly and directly. This approach combines explicit instruction with self regulation procedures such as goal setting, self-instruction, self-monitoring, and self-reinforcement. It has been used with students with learning disabilities, behavioral disorders, ADHD, developmental disabilities, and Asperger Syndrome (Graham & Harris, 2011). SRSD encompasses six strategy-acquisition stages (e.g., develop background knowledge, discuss the strategy, model the strategy, memorize the strategy, guided practice, and independent performance) in an attempt to teach planning, composing, and revision strategies to students who struggle with writing. These stages are not intended to applied in a linear format; instead educators can revisit stages if the student needs to repeat those (Harris, Graham, Mason &Friedlander, 2008).

### *Why is it important?*

SRSD approach requires careful planning, time, and practice in educational settings. It has been used successfully with students and found effectiveness in (a) teaching students strategies for planning, revising, and editing compositions, (b) implementing peer revision strategies (MacArthur, Schwartz, & Graham, 1991) (c) using self regulation strategies such as self-monitoring and self reinforcement.

### *References*

Graham, S. & Harris, K.R.(2011) *Writing and students with disabilities* In J.M.Kauffman& D.P. Hallahan (Eds.), *Handbook of special education* (pp.422-433). New York, NY: Routledge

Harris, K.R., Graham, S., Mason, L.H. & Friedlander, B. (2008) *Powerful writing strategies for all students*. Baltimore: Brookes.

MacArthur, C., Schwartz, S., & Graham, S. (1991). Effects of a reciprocal peer revision strategy in special education classrooms, *Learning Disability Research and Practice*, 6.201-210.

### *Web Links*

STAR Legacy Module on SRSD  
<http://iris.peabody.vanderbilt.edu/srs/chalcycle.htm>

## Cover, Copy and Compare

### *What is it?*

First described as a means of increasing spelling accuracy (McGuigan, 1975; Hansen, 1978), cover, copy, and compare (CCC) represents a simple, evidence-based approach to the acquisition of information. CCC consists of four self-managed steps: a) the learner studies an academic task (e.g., a math fact) and its answer, b) the learner covers the task and provides an academic response, c) the learner compares the attempt to the correct problem, and d) the learner repeats the CCC process for any of the problems answered incorrectly (Skinner McLaughlin, & Logan, 1997). The final step in the process relies on positive practice overcorrection, whereby the instructor compels the learner to provide correct forms of an incorrect response (Cooper, Heron, & Heward, 2007).

Research provides extensive support for the use of CCC. Although the acquisition of math facts (e.g., Skinner, Shapiro, Turco, Cole, & Brown, 1992) and spelling words (e.g., McAuley & McLaughlin, 1992) represents the primary focus of the CCC literature, researchers have demonstrated the effectiveness of CCC across a variety of academic tasks. For example, Skinner & Belfiore (1992) observed an immediate increase in ability of seven students with ED to fill in a blank map of the United States after using a modified CCC procedure. In addition, research supports the use of CCC as a tool in the remediation of a wide range of students, including those with LD (e.g., Murphy, Hern, Williams, & McLaughlin, 1990), ID (e.g., McLaughlin, Reiter, Mabee, & Byram, 1991), and ED (e.g., Skinner, Bamberg, Smith, & Powell, 1993).

### *Why is it important?*

The recent reauthorization of the Individuals with Disabilities Education Act (IDEA; 2004) emphasized the use evidence-based practices for students with disabilities. A rich and extensive body of research literature supports CCC and similar explicit instructional practices derived from behavioral theories of learning. Furthermore, the simple, self-directed nature of CCC makes it an ideal tool for providing empirically validated instruction to students with disabilities in inclusive settings.

### *References*

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Skinner, C. H., & Belfiore, P. J. (1992). Cover, copy, and compare: Increasing geography accuracy in students with behavior disorders. *School Psychology Review, 21*(1), 73-81.

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Skinner, C. H., Shapiro, E. S., Turco, T. L., Cole, C. L., & Brown, D. K. (1992). A comparison of self- and peer-delivered feedback on multiplication performance. *Journal of School Psychology, 30*(2), 101-116.

## Content Enhancement Routines

### *What is it?*

Content Enhancement Routines, or CERs are one component, along with Learning Strategies, of the Strategic Instruction Model (SIM) developed by the University of Kansas Center for Research on Learning. CERs are a type of group accommodation based on four key principles:

1. Content area teachers select key elements of content and adapt it for diverse groups of learners
2. Instruction addresses group and individual needs
3. Important concepts must not be lost or “watered-down”
4. Teachers must include students in the process

Each of the routines follows the procedure: CUE, DO, REVIEW. In the “CUE” phase, students are introduced to the graphic organizer, the important question is identified, and expectations for student involvement are made explicit. During the “DO” stage, teachers and students work together to strategize how best to find the answers and complete the graphic organizer and make explicit the steps involved to independently answer a question are explained. The purpose of REVIEW is to make sure the student is able to summarize the process used to accomplish the learning objective.

### *Why is it important?*

CERs are important because they have been tested and found to be effective in a variety of secondary inclusive settings, including English, science, and social studies. Students of low, average, and high abilities all made greater gains as compared to controls learning through traditional lecture methods. CERs can be used in RTI in all three Tiers.

### *References*

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Gersten, Russell, Okolo, Cynthia M.. (2007). Teaching history—in all its splendid messiness—to students with LD: Contemporary research. *Journal of Learning Disabilities, 40*, 98 – 99.

Tralli, Rosemary, Colombo, Beverly, Deshler, Donald D., Schumaker, Jean B.. (1996). The Strategies Intervention Model: A model for supported inclusion at the secondary level. *Remedial and Special Education, 17*, 204-216.

***Web Links***

The University of Kansas Center for Research on Learning  
<http://www.kucri.org/sim/content.shtml>

## Social Skills Instruction

### *What is it?*

Children with disabilities show difficulties developing social interactions in their natural environment. They do not know how to perform the social skills, thus deficits in social competence functioning leads to problem behaviors. To remediate these deficits and eliminate competing problem behaviors, social skills training which is designed to develop children's acquisition and performance in the area of social skills is used. The purpose of this training is to enable children interact with their social environment. During the social skills training, a trainer defines a particular social skill, gives examples and non-examples of this skill. To teach how to perform the social skill, the techniques such as modeling, role playing and procedures (i.e., positive reinforcement) derived from applied behavior analysis can be used. The trainer monitors the students' progress and discusses situations in which the skill should be performed in order to generalize the obtained skill (Gresham, Sugai, & Horner, 2001).

### *Why is it important?*

Communication and social skills are interdependent, thus establishing social interactions is crucial to develop both social and communication skills. In addition, children with disabilities can often use problem behaviors to communicate with others. They may not know how to express their needs and feelings. In this sense, the social skill training can produce meaningful outcomes for displaying appropriate social behaviors.

### *Reference*

Gresham, F. M., Sugai, G., & Horner, R. (2001) Interpreting outcomes of social skills training for students with high risk disabilities. *Exceptional Children*, 67, 331-344.

## Token Economies

### *What is it?*

In a token economy students are offered an explicit reward for demonstrated behaviors. A teacher selects the behaviors to be rewarded and informs the students of the reward system. For instance, a teacher could offer a gold coin to the first student to answer the question (Boniecki & Moore, 2003). The student could later exchange the coins he or she has earned for a tangible reward (i.e. a toy, points toward a grade, food). The purpose of the token economy is to reinforce the selected behaviors.

Token economies are more effective with a younger population; however, this method has been used in education, medicine, psychology, and a variety of other fields (Breyer & Allen, 1975).

### *Why is it important?*

Token economies can be a simple, but effective way of managing classroom behavior. It can also assist in minimizing or improving disruptive behavior. It is essential that an educator be consistent with the reward and reinforcement aspect of the system to see prolonged benefits. A token economy may also be utilized school wide to increase specific behaviors, like reading, across an entire school. The larger the system; however, the more room inconsistencies. This will prevent consistent increases in the selected behaviors.

### *Reference*

Boniecki, K. A. & Moore, S. (2003). Breaking the silence: Using a token economy to reinforce classroom participation. *Teaching of Psychology, 30*(3), 224-227.

Breyer, N. L. & Allen, G. J. (1975). Effects of implementing a token economy on teacher attending behavior. *Journal of Applied Behavior Analysis, 8*(4), 373-380.



## Good Behavior Game

### *What is it?*

The good behavior game is a group-contingency classroom management procedure designed to reduce problem behaviors. Before implementing the teacher first should (a) identify and operationally define up to 3 behaviors targeted for change (e.g., talking out, out-of-seat, aggression); (b) assigns students to one of three to four heterogeneous teams based on behaviors both internalizing and externalizing; (c) collects baseline data on team behavior to ensure that teams have similar base rates of behavior; and (d) reorganizes teams if needed based on baseline data showing significant differences in behavior between groups.

The teacher first describes the game and provides examples and nonexamples of the behaviors. Each team may appoint a leader and assign a group name. The teacher then tells the students that groups that receive fewer than a certain number of check marks (e.g., 5 during a 15 minute session) may receive a predetermined reward at the end of the activity. Throughout the activity the teacher monitors students for occurrences of the targeted behaviors. If a student displays any one of the targeted behaviors, they earn a check mark for their team, therefore holding the group responsible for the behavior of each member. If all the groups exceed the determined number of checks, then the group with the fewest marks wins the reward. Team leaders are then responsible for dispensing awards to their team members and marking the team's reward on a progress chart. Once students become familiar with the game, the teacher may begin the game unannounced at any time, thus teaching the students to consistently self-monitor their behavior.

### *Why is it important?*

This strategy has had positive effects on a variety of developmental outcomes including proximal decreases in disruptive behavior, increases in prosocial behavior, and more distal outcomes such as problem behavior, drug and alcohol use in young adulthood.

### *References*

Tingstrom, D. H., Sterling-Turner, H.E., & Wilczynski, S.M. (2006). Good behavior game: 1969-2002. *Behavior Modification, 30*(2), 225-253.  
Doi: 10.1177/0145445503261165

## Co-Teaching

### *What is it?*

Traditionally co-teaching has been described as a model in which a special education teacher and a general education teacher teach together in a general education classroom during some portion of the school day to accommodate the needs of students with and without disabilities. Various formats of the co-teaching model exist. Friend and Cook (1992) describe the six “traditional” approaches as: one teach and one assist, one teach one observe, station teaching, parallel teaching, alternative teaching, and team teaching. Within these approaches, either teacher can assume either role. To be successful, co-teaching should be planned deliberately and implemented as a true collaborative effort. Developing collaborative skills among co-teachers requires professional development and support from administrators. More extensive research is needed to define co-teaching practices and to ensure fidelity of implementation.

### *Why is it important?*

Co-teaching, when done with fidelity can foster a community of professionals who are working together to improve student outcomes. Co-teaching has enormous appeal and has been widely implemented in schools across the country. While there is a gap in the research showing evidence of its actual effectiveness on learner outcomes, it is an area of great popularity and therefore should be further examined.

### *References*

Friend, M., & Cook, L. (1992). *Interactions: Collaboration skills for school professionals*. New York: Longman.

Zigmond, N. (2006). Reading and writing in co-taught secondary school social studies classrooms: A reality check. *Reading and Writing Quarterly*, 22, 249-268.

### *Web Links*

Teacher Hub: <http://www.teachhub.com/effective-co-teaching-strategies>

## Collaborative Strategic Reading (CSR)

### *What is it?*

Collaborative Strategic Reading (CSR) is a reading comprehension program that uses explicit instruction, group collaborations and scaffolding. By breaking up the stages of reading, (before, during, and after) and applying specific steps in order to proceed from one stage to the next a “reading routine” is created. CSR places an emphasis on small group work and teacher-assisted learning in turn. Scaffolding is used to present a new text and teach students how to break up reading into stages. By first completing the task in full, and then slowly allowing more student control over the assignment and less teacher instruction. Delegating roles and responsibilities to each member of a group and finding opportunities for all to participate (eg. Leader, Clunk expert, Gist expert, Question expert, Encourager and Time keeper) introduces the group element of CSR. Each role focuses on a different aspect of the text and together the group guides one another through the clunks (difficult words or phrases) and toward comprehension. Emphasis is put on peer-mediated learning, but also on insuring that all students’ have the skills necessary to accomplish peer-mediated learning.

### *Why is it important?*

CSR is a comprehensive reading program that incorporates different teaching and learning styles. As an evidence-based practice it is a tool that has been proven to be effective and supported by research. CSR is a tool that can be used with a magnitude of texts and with multiple different learners in a given classroom. Scaffolding is used to address potential LD students and give them the opportunity to learn a routine to use when reading on their own.

### *References*

Johnson, D. W., & Johnson, R. (1989). *Cooperation and competition: Theory and research*. Edina, MN: Interaction Book Company.

Klingner, J. K., Vaughn, S., Dimino, J., Schumm, J. S., & Bryant, D. (2001). *Collaborative strategic reading: Strategies for improving comprehension*. Longmont, CO: Sopris West.

Klingner, J. K., Vaughn, S., & Schumm, J. S. (1998). Collaborative strategic reading during social studies in heterogenous fourth grade classrooms. *The Elementary School Journal*, 99, 3-22.

### *Web Links*

STAR Legacy Module on CSR: <http://iris.peabody.vanderbilt.edu/csr/chalcycle.htm>

## Repeated Reading

### *What is it?*

Repeated reading requires students to read passages in connected texts or word lists more than once. This definition emphasizes both word-level and sentence or passage-level fluency as recommended within factors that impact fluency development. Numerous approaches and programs emphasize repeated reading, they can be grouped by the manner of delivery: (a) teacher directly or (b) within a peer-tutoring approach. An example of a widely used teacher-directed program is Read Naturally (Hasbrouck, Ihnot, & Rogers, 1999). A research-based peer-tutoring program is Classwide Peer Tutoring (CWPT: Greenwood et al., 2001). Therrien and Kubina (2006) identified essential intervention features in effective repeated reading interventions: (a) having students read to an adult, (b) ensuring students were explicitly told that becoming a more fluent reader will help them understand what they are reading, (c) establishing an explicit student specific goal, (d) providing corrective feedback, and (e) having students repeatedly read a passage three to four times.

### *Why is it important?*

Repeated reading supports reading fluency development which in turn supports reading comprehension. It improves student comprehension of texts and offers students areas they can improve on within reading.

### *References*

- Greenwood, C. R., Arreaga-Mayer, C., Utley, C. A., Gavin, K.M., & Terry, B.J. (2001). Class-wide peer tutoring learning management system: Applications with elementary-level English language learners. *Remedial and Special Education, 22*(1), 34-47. doi: 10.1177/074193250102200105
- Hasbrouck, J. E., Ihnot, C., & Rogers, G.H. (1999). "Read Naturally": A strategy to increase oral reading fluency. *Reading Research and Instruction, 39*(1), 27-37. Doi:10.1080/19388079909558310
- Therrien, W.J. & Kubina, R. M. (2006). Development reading fluency with repeated reading. *Intervention in School and Clinic, 41*(3), 156-160.

### *Web Links*

Intervention Central: <http://www.interventioncentral.org/academic-interventions/reading-fluency/repeated-reading>

## Read Naturally

### *What is it?*

Read Naturally is fluency-focused program that includes teacher modeling, repeated reading, and progress monitoring to increase reading proficiency. All of the Read Naturally programs follow similar steps. The steps usually consist of selecting a story, determining key words, predicting what will happen from the title and key words, cold timing, read along, practice, quiz questions, and retell. Cold timing occurs when the student reads through the story for the first time and is timed. This is considered a baseline performance for the student on the new story. Read along is the teacher modeling portion of the strategy. The teacher models correct pronunciation, expression, and phrasing. Practice is the repeated reading component of the strategy. The student reads through the story multiple times to improve fluency. The student times him or herself on each practice round. The quiz questions test the student's comprehension of the story. For the retell, the student writes what he or she learned from the story and the sequence of events that occurred. This component of the strategy also tests comprehension.

### *Why is it important?*

Read Naturally improves reading fluency in young students. It also is designed to allow students to progress through the program at his/her desired rate. The student is not placed under additional pressure to keep up with peers. The student also has some independence with book selection, as well as, the number of times he or she chooses to practice. As a self-paced program it can require additional work for teachers when all students are at different levels within the program. However, there is a computerized version of the program now, which minimizes the documentation component for teachers.

### *Reference*

Hasbrouck, J. E., Innot, C., & Rogers, G.H. (1999). "Read Naturally": A strategy to increase oral reading fluency. *Reading Research and Instruction*, 39(1), 27-37. Doi:10.1080/19388079909558310

### *Web Links*

Read Naturally Program Website: [www.readnaturally.com](http://www.readnaturally.com)

## **Solve It! Cognitive Strategy Instructional Approach**

### ***What is it?***

Cognitive strategy instruction (CSI) is an explicit instructional practice that gives students a cognitive routine to follow to solve various types of word problems. Characteristics of explicit instruction include high-levels of structure and organization within the lessons, guided and distributed practice, modeling, frequent interaction between students and teachers, immediate and corrective feedback, positive reinforcement, and mastery of the skill. Solve It! is an evidence-based example of CSI and is used to teach students with LD how to tackle word problems in mathematics, specifically; it teaches students cognitive processes and self-regulation strategies.

Using the acronym RPV-HECC, students internally work through a word problem in the following steps. Students first read (R) for understanding then paraphrase (P) in their own words. Next, students draw a picture representation or visualize (V) the problem and hypothesize (H) by developing a plan. Students are then to estimate (E) the answer followed by actually computing (C). Finally, students check (C) to ensure their answer is correct. Using the Solve It! strategy is useful in many classrooms because it gives the teacher flexibility to adapt instruction based on student needs and focuses on a variety of problem types including textbook problems, state-assessment type problems, and real-world type problems. Students work individually, in pairs, and in groups. Solve It! is a program that includes an instructional guide and accompanying materials, assessments, and scripted lessons. It also comes with helpful procedures geared towards application, maintenance, and generalization of strategies and skills. (Montague, 2003).

### ***Why is it important?***

In order to increase opportunities for careers and employment in the future, students must be successfully achieving in mathematics today (National Mathematics Advisory Panel, 2008). A primary goal of Solve It! is to enable students must become efficient, effective, and independent problem solvers. According to research so far, CSI approaches such as Solve It! show great improvements in teaching word problem solving as well as reading comprehension and composition. (Wong, Harris, Graham, and Butler, 2003).

### ***References***

Montague, M. (2003). *Solve It: A mathematical problem-solving instructional program*. Reston, VA: Exceptional Innovations.

National Mathematics Advisory Panel. (2008). *Foundations for success: The final report of the National Mathematics Advisory Panel*. Washington, DC: U.S. Department of Education.

Wong, B.Y.L., Harris, K.R., Graham, S., & Butler, D.L. (2003). Cognitive strategies instruction research in learning disabilities. In H.L. Swanson, K.R. Harris, & S. Graham (Eds.) *Handbook of learning disabilities* (pp.383-402). New York: Guilford Press.

## Reading Mastery

### *What is it?*

The SRA Reading Mastery program uses direct instruction to improve decoding skills, fluency, and comprehension. The program is highly structured instructional approach designed to accelerate the reading ability of at-risk students. It is primarily an elementary program that uses a phonics based approach, based on the behavioral analysis of decoding (Wiltz & Wilson, 2005). The curriculum and materials of the program attempt to move children toward mastery at the fastest possible pace. The instructional approach focuses on cuing and reinforcement procedures. Each discrete component of reading (phonics, segmentation, blending) are broken down into component parts, which are taught in a manner described as synthetic phonics instruction (Wiltz & Wilson, 2005).

### *Why is it important?*

The SRA Reading Mastery program offers a complete reading program for at-risk students. It focuses on the areas of greatest weakness often found in this population and attempts to accelerate learning at a rapid pace. The effectiveness of this approach are mixed; however, there have been documented improvements for at-risk students in comprehension (Wiltz & Wilson, 2005).

### *Reference*

Wiltz, N. & Wilson, G. P. (2005). An inquiry into children's reading in one urban school using SRA reading mastery (direct instruction). *Journal of Literacy Research*, 37(4), 493-528.

### *Web Links*

SRA Reading Mastery Website:

<https://www.mheonline.com/programMHID/view/0076181936>



## Errorless Training

### *What is it?*

Errorless training involves manipulating the relevant and irrelevant task stimuli so that few or no errors occur while a target response is being taught (Snell, & Brown, 2011). Mueller, Palkovik, & Maynard (2007) listed errorless teaching procedures as the following: stimulus fading, stimulus shaping, response prevention, delayed prompting, superimposition with stimulus fading, and superimposition with stimulus shaping. These procedures refer to a variety of discrimination learning techniques that aim to minimize incorrect responding (Mueller et al., 2007). All of them involve two specific rules. First, the initial responding is easy and second, the students' progress toward to the target behavior is gradual (Lancioni, & Smeets, 1986).

### *Why is it important?*

In contrast to trial-and-error training, errorless training does not allow the student to make considerable errors while learning the target behavior. Research has shown that it is effective in establishing discrimination. Students with severe disabilities who have difficulty in making simple and conditional discriminations can benefit from errorless training (Graff, & Green, 2004).

### *References*

- Graff, R. B., & Green, G. (2004). Two methods for teaching simple visual discriminations to learners with severe disabilities. *Research in Developmental Disabilities, 25*, 295-307.
- Mueller, M.M., Palkovik, C.M., & Maynard, C.S. (2007). Errorless learning: review and practical application for teaching children with pervasive developmental disorders. *Psychology in the Schools, 44*, 7, 691-700.
- Lancioni, G.E., & Smeets, P.M. (1986) Procedures and parameters of errorless discrimination training with developmentally impaired individuals. In N.R. Ellis & N. W. Bray (Eds.) *International Review of Research in Mental Retardation*, 135-164. New York: Academic Press.
- Snell, M. E., & Brown, F. (2011) *Instruction of Students with Severe Disabilities* (7<sup>th</sup> ed.) Upper Saddle River, New Jersey: Merrill/Pearson.

## Time Delay

### *What is it?*

Time delay is a stimulus-fading procedure in which the two stimuli are presented concurrently; over succeeding trials, a teacher gradually delays the prompt in small increments (e.g., 1s) or a fixed duration (e.g., 5s) (Graff, & Green, 2004). There are two types of time delay, constant time delay and progressive time delay. In constant time delay, the initial trials begin with providing a 0-second delay. A teacher using 0-second delay models the correct response after providing the natural cue. Once the student responds correctly, the student receives reinforcement for correct responding. After several successful trials with 0-second delay, the teacher increases the time delay between the task demand and the prompt to a predetermined length (e.g., 4 seconds) (Snell, & Brown, 2011).

With progressive time delay, the time delay between the task request and the prompt after the 0-second delay trials is gradually and systematically extended across time (Demchak, 1990). The teacher may begin with a zero delay then, she/he may increase the time delay interval up to 8 (or more) seconds, where delay remains until the student produces the correct response (Snell, & Brown, 2011).

### *Why is it important?*

Time delay is an effective teaching procedure for individuals with severe disabilities who do best when they make more correct responses and few errors in obtaining a new skill. Numerous research studies have shown time delay effective in teaching discrete and chained behaviors across a range of students with disabilities (Snell, & Brown, 2011). In addition, time delay is useful strategy to avoid prompt dependency for students who might become dependent on the teacher's prompts (Miller, & Test, 1989).

### *References*

- Demchak, M. (1990). Response prompting and fading methods: a review. *American Journal on Mental Retardation*, 94, 603-615.
- Graff, R. B., & Green, G. (2004). Two methods for teaching simple visual discriminations to learners with severe disabilities. *Research in Developmental Disabilities*, 25, 295-307.
- Miller, U.C., & Test, D. W. (1989). A comparison of constant time delay and most-to-least prompting in teaching laundry skills to students with moderate retardation. *Education and Training in Mental Retardation*, 24, 363-370.
- Snell, M. E., & Brown, F. (2011) *Instruction of Students with Severe Disabilities* (7<sup>th</sup> ed.) Upper Saddle River, New Jersey: Merrill/Pearson.

## Prompting Systems

### *What is it?*

A prompt is an antecedent stimulus used to elicit a correct response when it is paired with the discriminative stimulus (Cooper, Heron, & Heward, 2007; Snell, & Brown, 2011). Prompting systems including, most-to-least prompting (e.g., physical-model-verbal), least to most intrusive (e.g., verbal-model-physical), time delay, graduated guidance, and simultaneous prompts, provide information that lets a student how to perform the targeted task (Copeland, & Osborn, 2013; Snell, & Brown, 2011). Prompts can be provided by using verbal cues, gestures, modeling, and full or partial physical assistance (i.e., response prompts) or making stimulus modifications (i.e., stimulus prompts) (Cooper et. al., 2007).

### *Why is it important?*

Educators use prompt systems in an attempt to reduce errors when a student learning new skills, thus increasing the probability of a correct response. Research supports use of prompting systems because it may help students with severe intellectual disability obtain a range of skills including communication, vocational, behavioral, social, and self care skills (Morse, & Schuster, 2004; Wolery, Ault, Gast, Doyle, & Griffen, 1990).

### *References*

- Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied Behavior Analysis* (2<sup>nd</sup> ed.). Upper Saddle River, NJ: Merrill/Pearson.
- Morse, T.E., & Schuster, J.W. (2004). Simultaneous prompting: a review of the literature. *Education and Training in Developmental Disabilities*, 39, 153-168.
- Snell, M. E., & Brown, F. (2011) *Instruction of Students with Severe Disabilities* (7<sup>th</sup> ed.) Upper Saddle River, New Jersey: Merrill/Pearson.
- Wolery, M., Ault, M. J., Gast, D. L., Doyle, P. M., & Griffen, A.K. (1990). Comparison of constant time delay and the system of least prompts in teaching chained tasks. *Education and Training in Mental Retardation*, 25, 243-257.

## **ADDITIONAL EVIDENCED-BASED PRACTICES**

## Cognitive Behavioral Therapy (CBT)

### *What is it?*

Cognitive Behavioral Therapy or CBT is an approach to behavioral therapy that incorporates both cognitive and behavioral tenets to address depression in children and adolescents. By combining cognitive and behavioral theory, CBT addresses dysfunctional thought processes while seeking to change the pattern of depressive behaviors by teaching children to increase engagement in reinforcing activities and promoting positive social skills. The therapist's role is that of a teacher, providing direct information and support to a student as he learns to monitor his thoughts and behavior. CBT has been found to be an effective practice to intervene with students demonstrating depression (Curry, 2001). There are a variety of types of CBT therapy. The most common is cognitive restructuring, which teaches students to challenge their negative view of themselves and their surroundings, replacing those thoughts with more realistic ones. Another is problem solving, which teaches students to evaluate stressful situations and respond to them deliberately. A third approach targets self-management, teaching students to use self-monitoring to make self-directed changes in mood and behavior.

### *Why is it important?*

Research shows that students experiencing depression struggle with problems in school that impact learning, including low self-esteem, poor concentration, poor attendance, poor academic performance, and withdrawal. Estimates of mental health prevalence indicate that more than 30% of students will experience a significant problem during their school careers. Importantly, recent work indicates that interventions for depression are more effective when implemented when symptoms first emerge (Kern et. al, 2007).

### *References*

Curry, J.F. (2001). Specific psychotherapies for childhood and adolescent depression. *Biological Psychiatry*, 49, 1091-1100.

Kern, I. & Clemens, N.H. (2007). Antecedent strategies to promote appropriate classroom behavior. *Psychology in Schools*, 44, 65-75.

### *Web Links*

National Association for Cognitive Behavioral Therapists  
<http://www.nacbt.org>

## Core Intervention Model (ELL)

### *What is it?*

The Core Intervention Model is a supplemental direct instruction in phonological skills that has been demonstrated to be effective for use with English Language Learners (ELL).

It was designed for use for K-2 phonological awareness, decoding, and listening comprehension. Six principles that guide the intervention are:

- Small group setting
- Appropriate materials
- Explicit
- Rapid pace
- High rate of response
- Corrective feedback using the “staircase” approach

Example of Staircase Questioning:

Step 1: Original question – “What word rhymes with *frog*?”

Step 2: Yes or No questions – “Does *log* rhyme with *frog*?”

Step 3: Telling the answer – “*Log* rhymes with *frog*; what rhymes with *frog*?”

Step 4: Say and repeat – “*Log*” “Good, *log* rhymes with *frog*”.

(From Gerber et al., 2004)

### *Why is it important?*

Latino/a students have the highest rate of school failure in the US compared to all other ethnic groups. Latino/a students are often placed into special education without receiving high-quality instruction or linguistically appropriate pre-referral reading interventions. ELL students that received this reading intervention demonstrated significant gains, with large effect sizes for phonological awareness, and moderate effect sizes for word reading and decoding.

### *References*

Gerber, M.M., Jimenez, T., Leafstedt, J. (2004). English reading effects of small-group intensive intervention in Spanish for K-1 English learners. *Learning Disabilities Research and Practice*, 19, 239-251.

### *Web Links*

Vaughn Gross Center for Reading and Language Arts:  
<http://www.texasreading.org/utcrcla/>

## **Explicit Practices, Strategic Practices, and the Use of Visual Representation to Teach Arithmetic Combinations to Students with Specific Learning Disorders (LD)**

### ***What is it?***

The current evidence base supports the following instructional practices; *explicit practices, strategic practices, and the use of visual representations*, to teach arithmetic combinations to students with LD.

*Explicit Instructional Practices* focus on systemically implemented behavioral practices to teach mathematical concepts. Current literature supports the use of systematic, explicit instruction for teaching computation to students with mathematical difficulties. This approach is based on the behavioral theory of learning by improving instructional behavior (correct responses per minute) by manipulating consequent events (reinforcement for improved academic or social behavior). Explicit practices include modeling, high rates of responding and practice, repetition, error correction, review and distributed practice, and frequent monitoring. An example of this model used alone is the ***Constant Time Delay*** procedure.

*Strategic Instruction Practices* are based on information processing theory, focusing on how students perceive, encode, represent, store, and retrieve information. By providing specific strategies for students to use, the practice reduces the “cognitive load” for learning higher order math skills, promotes flexibility with numbers, and provides an expanded knowledge base that can facilitate retention and retrieval. A model that has demonstrated effectiveness is the ***Count-On*** strategy, paired with a cross age peer tutoring arrangement.

*Use of Visual Representations*, including manipulatives, tallies, pictures, and number lines to promote understanding of mathematical ideas has been found to have moderate positive effects when paired with other instructional evidence-based practices. The ***concrete-representational-abstract (CRA)*** method used in conjunction with the ***DRAW*** strategy is an example of pairing visual representation with strategic instruction practices.

### ***Why is it important?***

The complexities of teaching students who have been identified as having a mathematics LD are often frustrating and confusing for teachers. It has been suggested that proficiency in solving arithmetic combinations is a critical skill to develop mathematical fluency. By identifying effective, evidence-based strategies, this review outlines specific approaches for educators to use to help students with LD become more proficient with these foundational skills (Bryant, 2013).

### **References**

Bryant, D. B. (2013). Instructional Practices for Improving Student Outcomes in Solving Arithmetic Combinations. In B. & Cook, *Research-Based Practices in Special Education* (pp. 61-85). Boston: Pearson.

## **Functional Assessment Based Intervention (FABI)**

### ***What is it?***

Functional Assessment Based Interventions or FABIs are interventions based on the reasons problem behaviors occur. It is a function-based approach used to determine why a specific behavior is occurring. The motive for specific behavior (i.e. aggression) is identified by conducting a functional behavioral assessment. The functional behavioral assessment is a tool used to determine the function of a specific behavior. Once the function of the behavior is identified, an intervention is designed to address the behavior and its function specifically. The intervention is implemented and monitored using a single-subject research design (i.e. reversal or multiple baseline). This is done to ensure a functional relation is established between the intervention and the target behavior. The intervention must be monitored for reliability, treatment integrity, social validity, generalization and maintenance in order to draw accurate conclusions from the outcome data. The procedure used to conduct a FABI include (a) collection of data to determine function of behavior (b) analyze data to determine function of target behavior (c) design intervention linked to function of behavior (d) evaluate the changes made by the intervention to the target behavior.

### ***Why is it important?***

The FABI is important because it answers the question of “why” a child is engaging in a specific (potentially harmful) behavior. It also allows the instructor to design and implement an intervention that is individualized to meet the needs on one specific student. The goal of the FABI is to design interventions that are meant to replace undesirable behavior with safe, socially appropriate behavior.

### ***References***

Cooper, J.O., Heron, T.E., & Heward, W.L. (2007). *Applied behavior analysis* (2<sup>nd</sup> ed.) Upper Saddle River, NJ: Merrill/Pearson.



## Milieu Teaching

### *What is it?*

Milieu Teaching involves child-adult teaching interactions that occur during natural, unstructured times. The teacher follows the child's lead and it typically occurs during child-selected situations. Within research framework of Early Childhood Special Education, it is closely linked to the philosophical perspective of natural environment teaching and natural learning opportunities. Milieu teaching is extremely language based and focuses on meaning of communication instead of the child's usage of grammatically correct language. It occurs within a fluid and flexible structure.

When a teacher implements milieu teaching, they make a sequence of decisions when responding to a child's request or attempt at communication. The sequence is as follows:

- (1) Should I use this situation for milieu teaching? If yes, then:
- (2) Decide what type of language behavior you want from the child and
- (3) Decide the cue you want to use (a) follow child's attentional lead or (b) follow child's attention plus include a verbal cue. If child does not respond to cue
- (4) Decide the amount of prompting you will use (a) fullest- imitation, (b) medium- partial imitation, or (c) minimal- terminal language behavior

Within milieu teaching there are four major teaching procedures. These basics of these procedures are as follows:

- (1) Model Procedure: Teacher notices opportunity, models response, and waits. Teacher provides prompts and judges child's continued interest.
- (2) Mand-Model Procedure: Teacher builds on Model procedure by providing a mand (directive, "Tell me what you want"). Teacher waits for response, provides prompts, and judges child's continued interest.
- (3) Delay Procedure: Less intrusive than Model or Mand-Model. Used for responses that a child has acquired but does not use consistently, frequently, or independently.
- (4) Incidental Teaching Procedure: Teacher uses one of the three previous procedures depending on difficulty level of target response and interest level of child.

A variation of milieu teaching is Enhanced Milieu Teaching (EMT), which incorporates incidental teaching, environmental arrangements (manipulating environment, materials, and situations), and responsive interactions (adults respond in ways that encourage communication).

### *Why is it important?*

Young children who have deficits in communication and language skills are not only at risk for academic failure, but are also at risk for experiencing "failure" socially, for developing dysfunctional relationships with peers and family members, and for developing behavioral problems. There is evidence that naturalistic teaching, such as milieu teaching, supports both the acquisition and generalization of communication and language skills in young children (Kaiser & Hester, 1994).

***References***

Kaiser, A. P., Hester, P.P. (1994). Generalized effects of enhanced milieu teaching. *Journal of Speech & Hearing Research*. 37(6).

## Multi-Tier System of Supports

### *What is it?*

Multi-Tier System of Supports (MTSS) is a conceptual framework for organizing schools and educating students through varying levels of support. According to Sugai and Horner (2009), MTSS is a broader term that encompasses several kinds of tiered support systems that go by various names, such as the more academically focused Response to Intervention (RTI) (aka: Response to Instruction). Positive Behavioral Interventions and Supports (PBIS) or School-Wide Positive Behavioral Support (SWPBS) are also MTSS that are more specific to addressing behavioral issues. Although there are variations on the basic theme, MTSS models share some common elements, including: universal screening for early identification of students who are not responding to evidence-based instruction, multiple tiers of intervention that increase in intensity, standardized problem solving protocols for decision-making, data collection used for adjusting instruction, emphasis on implementation integrity, and assessments that help guide instruction and placement (Sugai & Horner 2009).

On the Kansas MTSS website, the tiered delivery of services is graphically represented using a pyramid labeled with “all” at the base, followed by “some” toward the top and “few” at the pinnacle. In this all-some-few model, services are allocated to progressively fewer students at increasingly intense and individualized levels. For example, all students receive education based on systematic assessment and data based decision-making, an evidence-based core curriculum, consistent discipline, and positive behavioral expectations. This level of intervention aligns with Tier 1. Approximately 20% (some) of those students will require supplemental, targeted skills interventions in small groups with more recurring data collection and decision-making. A few more (5% of the second tier students) will need student-centered customized learning with more frequent monitoring to guide instruction.

### *Why is it important?*

There are two main goals of MTSS, namely, closing gaps in student achievement and identifying students with learning disabilities. Sugai and Horner (2009) state that MTSS has grown out of the requirements in No Child Left Behind (2004) and Individuals with Disabilities Act (2004) for scientifically based instruction as a means to differentiate instruction, monitor student achievement, and identify students with learning disabilities. Although at the secondary educational level, the role as screening tool will be less prominent, MTSS is still an effective method for remediating gaps in skills, and supporting students with behavioral challenges.

### *References*

Sugai, G. and Horner, R. H. Responsiveness-to-Intervention and School-Wide Positive Behavior Supports: Integration of Multi-Tiered System Approaches. 2009. *Exceptionality*. 17 223–237.

### *Web Links*

[www.ksde.org](http://www.ksde.org) -Kansas State Department of Education

[www.kansasmstss.org](http://www.kansasmstss.org) –Kansas Multi-Tier System of Supports

[www.pbis.org](http://www.pbis.org) –OSEP Center on Positive Behavioral Interventions and Supports and Effective

School-wide Interventions

[www.rti4success.org](http://www.rti4success.org) –National Center on Response to Intervention

## **Systematic Screening for Behavioral Disorders (SSBD)**

### ***What is it?***

Systematic Screening for Behavioral Disorders (SSBD) is a systematic and comprehensive approach to identifying students who may be at risk for internalizing and externalizing behavior disorders. It has been used across all grade levels, from Kindergarten to high school. More verification is needed to determine its effectiveness at the preschool level. It uses a three stage, or gate, model for screening and identifying students who may be in need of behavior supports. The first gate involves the ranking of all students by the classroom teacher. The teacher ranks each student in the classroom, taking into account both external and internal behaviors. In the second gate, the teacher completes a more detailed measure of the students who were most at risk for externalizing and internalizing behaviors. These results are compared to a normed sample of students. The third gate involves the observation the identified students by an outside professional. The outside professional rates the students according to their observations. Data from the teacher and the professional are compared and eligibility for special education services may be considered.

A kit entitled Systematic Screening for Behavior Disorders by Hill M. Walker, Ph.D. and Herbert H Severson, Ph.D. is available through Sopris Learning at the Cambium Learning Store. This kit is geared towards students in Kindergarten to grade 6. The kit includes three manuals, a training video, a CD used to help prompt observations, and reproducible forms.

### ***Why is it important?***

There is a discrepancy between the number of students who have or are at risk for developing behavior disorders. According to Weist, Rubin, Moore, Adelsheim, and Gordon, (2007), between 12% and 27% of students might demonstrate external behavior concerns or internal behavior concerns (e.g. depression or anxiety), but only one in six to one in three students receive any type of treatment. The earlier students who are at risk are identified the more likely it is that timely treatments and services will be provided to the student. Early intervention is important because problem behaviors may become difficult or impossible to manage (Davis, Young, Hardman, & Winters; 2011).

### ***References***

Davis, S.D., Young, E.L., Hardman, S., & Winters, R. (2011). Screening for emotional and behavioral disorders. *Principal Leadership*. Retrieved from [http://www.nassp.org/Content/158/pl\\_may11\\_schoolpsych.pdf](http://www.nassp.org/Content/158/pl_may11_schoolpsych.pdf)

Walker, H.M. & Severson, H.H., Systematic Screening for Behavior Disorders. <http://store.cambiumlearning.com/systematic-screening-for-behavior-disorders/>

Weist, M.D., Rubin, M., Moore, E., Adelsheim, S., & Gordon, W. (2007). Mental health screening in schools. *Journal of School Health*. 77(2).

## Text Talk

### *What is it?*

A program in which teachers use trade books to promote word knowledge and meaning construction with kindergarten and first grade students. The main focus of this program is to select “sophisticated words” from the trade books. The term “sophisticated words” refers to words that are used by mature speakers and are found in written language. These words (i.e. tier -2 words) are thought to be especially important for at risk learners who would be less likely to learn them independently. In the text talk program, word instruction takes place after a storybook reading so that the teacher can capitalize on the story by teaching the words in a familiar context. The strategy consists of five instructional steps for teaching a new word. First the teacher defines the word and provides examples of how the word can be used in a sentence. Next she/he asks the children to say the word out loud (emphasis on the phonological pronunciation of the word). The teacher and children discuss how the word can be used in new situations (different from the story). Next, the teacher conducts a discrimination task in which she/he asks the students to decide what is and is not a correct example of the target word. Finally, the children have the opportunity to share their own examples of ideas pertaining to the target word.

### *Why is it important?*

Text Talk is a program aimed at increasing word knowledge for children in kindergarten and first-grade. Studies revealed that children who received direct, explicit, and extended word instruction showed greater gains in target word knowledge than children who did not receive this instruction. This strategy is important because it is geared towards enriching vocabulary and word knowledge for children, particularly those at risk. While this intervention has been shown to be effective with kindergarten and first-grade students, the instructional steps can be adapted to suit various age ranges (i.e. elementary, middle and/or secondary) and levels of functioning.

### *References*

Beck, I.L., & McKeown, M.G. (2007). Increasing young low-incidence children’s oral vocabulary repertoires through rich and focused instruction. *The Elementary School Journal*, 107, 251-271.

Curtis, M.E. (1987). Vocabulary testing and vocabulary instruction. In M.G McKeown & M.E. Curtis (Eds.), *The nature of vocabulary acquisition*. Hillsdale, NJ: Erlbaum.

## Visual Phonics

### *What is it?*

Visual Phonics is a set of hand and grapheme cues that are representative of the phonemes in spoken language. These are used for students who are deaf or hard of hearing as a method to teach phonemic awareness. The process includes three main procedures: 1) training teachers and other professionals how to use the system (This training should be provided by a licensed International Communication Learning Institute). 2) Next professionals need to identify where they are going to apply Visual Phonics to their current reading and spelling programs. 3) Finally, professionals need to apply the system by incorporating it into their reading instruction.

### *Why is it important?*

Visual Phonics is an important learning tool because it works towards the strengths of the deaf community. Visually based instruction can help to teach deaf students how to break down the complex pieces of words that ultimately lead to reading comprehension.

### *References*

Trezek, B.J., & Malmgren, K. W. (2005). The efficacy of utilizing a phonics treatment package with middle school deaf and hard of hearing students. *Journal of Deaf Studies and Deaf Education, 10*, 256-271.

Trezek, B.J., & Yang, Y. (2006). Implications of utilizing phonics-based reading curriculum with children who are deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education, 11*, 202-213.

### *Web Links*

<http://seethesound.org>

<http://www.asd-1817.org/page.cfm?p=794>



