
EDJJ PROFESSIONAL DEVELOPMENT SERIES

MODULE 7:

INSTRUCTIONAL METHODS AND STRATEGIES

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Table of Contents

- I. Introduction
- II. Objectives
- III. Content Outline
 - Principles of Effective Instruction
 - Stages of Learning
 - General Empirically Validated Instructional Practices
 - Assessment and Evaluation
 - Co-teaching
 - Reading
 - Writing
 - Math
 - Science and Social Studies
- IV. References
- V. Transparencies

Introduction

This module is one in a series of training packages that have been designed for working with students with disabilities in a correctional setting; its focuses on strategies for effective instruction, assessment, and evaluation.

Objectives

- (1) Participants will describe verbally or in writing the importance of education in juvenile corrections and support their stance using current statistics and laws.
- (2) Participants will identify and/or recognize the key components of direct instruction including curricular design variables and teaching techniques (*DI*) and the teaching methodologies within direct instruction (*di*).
- (3) Participants will identify and use eight principles of effective instruction.
- (4) Participants will apply the stages of learning to development of a lesson.
- (5) Participants will identify the definitions of formative and summative assessments and the benefits of each.
- (6) Participants will decide on a possible co-teaching approach, answer key questions related to instructional beliefs and philosophy, and (if possible) work with a fellow teacher to develop a plan for actual co-teaching.
- (7) Participants will develop lessons based on literature that include activities within each of the six learning levels.
- (8) Participants will develop a literature-based lesson that uses a graphic organizer.
- (9) Participants will write a plan for “establishing a writing community” by noting classroom adaptations that will be made and/or current practices that are consistent with the literature.
- (10) Participants will develop an outline that students may use for guided notetaking.
- (11) Participants will develop a lesson or group of lessons that use the concrete-semiconcrete-abstract teaching progression. Additionally, participants will include adaptations for students based on the recommendations and strategies provided.

(12) Participants will develop a group of science and social studies lessons that integrate the instruction and implementation of various teaching devices including graphic organizers, mnemonic devices, diagrams, and study guides. Additionally, teachers will note in the lessons planned refutations and instructional practices consistent with conspicuous communication methods.

Content Outline

- I. In Juvenile Corrections (Transparency 1)
 - A. 45% of juvenile offenders have learning disabilities (LD); (U.S. Department of Education, Office of Special Education Programs, 1996).
 - B. 7% of juvenile offenders have been identified as mentally retarded (U.S. Department of Education, Office of Special Education Programs, 1996).
 - C. 42% of juvenile offenders have been labeled emotionally/behaviorally disordered (EBD); (U.S. Department of Education, Office of Special Education Programs, 1996).
 - D. 44.4% of youth in one study (Malmgren & Leone, 2000) were labeled special education compared to 10% in the general population.
- II. Characteristics of Students (Transparency 2)
 - A. Students with emotional/behavioral disorders (EBD) commonly have learning difficulties (Kauffman, 1997).
 - B. Students with LD and EBD also have similarities in academic performance and achievement (Scruggs & Mastropieri, 1986).
 - C. Students with LD and EBD have common characteristics: display deficits in both short- and long-term memory skills; have weak selective attention skills; exhibit deficits in metacognitive skills including skills for guiding, monitoring, regulating, and evaluating social- and task-related work; and have difficulty storing and accessing verbal information (Kameenui & Carnine, 1998).
 - D. Students with EBD often have difficulties with organizational skills (Rhode, Jenson, & Reavis, 1993).

III. Research on Instructional Practices for Students with EBD (Transparency 3)

- A. One review of literature focusing on the journal *Behavioral Disorders* between 1990 and 1996 resulted in only 10 articles related to instructional practice that increase student academic performance (Ruhl & Berlinghoff, 1992).
- B. In another review (Gunter & Denny, 1998), which covered 1976-1990, only 10 research articles existed that focused on increasing academic achievement of students with EBD in the classroom.
- C. Teachers rarely make curricular modifications for student with EBD (Meadows, Neel, Scott, & Parker, 1994).
- D. However, what we do know about effective instruction for students with and without disabilities can and should be applied to instructing youth in juvenile detention facilities.

IV. Education and Corrections

Correctional education programs are impacted by mandatory state education laws. Just for adult education programs, programs for youth include general education development (GED), basic literacy skills, postsecondary, special education, English as a second language (ESL), life skills, and vocational training (National Institute for Literacy, 2002).

- A. Lower recidivism was found to be related to an increase of education while incarcerated (Harer, 1994; U.S. Department of Education, Office of Special Education Programs, 1996).
- B. Rehabilitating offenders and reducing recidivism can be accomplished through education (Alabama, 1992).
- C. There may be complications in educating youth with special needs in juvenile correctional facilities. Leone and Meisel (1997) identified common problems including an emphasis on

punishment versus a philosophy of rehabilitating juveniles and competition among educational needs, security, and maintenance of the physical plant for limited fiscal resources. In addition, the researchers noted that correctional education programs typically do not have the autonomy necessary to assure student educational needs are met. However, it should also be noted that providing appropriate instruction and necessary adaptations and modifications are rights guaranteed to all students and mandated for students with disabilities under the Individuals with Disabilities Education Act (IDEA); (1997) and Section 504 of the Rehabilitation Act of 1973.

- D. While the juvenile correctional facilities do have some unique attributes, effective instructional strategies, should not be based upon the setting in which these youth attend school. Rather, instructional approaches, modifications, and adaptations should be based upon empirically validated techniques for students with disabilities and for all students. Many of the instructional strategies noted in this module could benefit a large number of students regardless of their setting or diagnosis.

Principles of Effective Instruction (Ellis & Worthington, 1994)

(Transparency 3)

- I. Principle 1: Engagement Time
 - A. Time is an important instructional principle.
 - B. Three aspects of time directly impact student learning.
 - (1) The maximum amount of time that is allocated to the activity
 - (2) The degree to which students are engaged during allocated time
 - (3) The degree to which students engage in the activity with high rates of success
 - C. Effective teachers
 - (1) Spend 15% less time on management and organization tasks, and 50% more time in interactive instructional activities.
 - (2) Organize the students' time so they can spend at least some time with the total group, in small groups, and with individuals.
- II. Principle 2: Levels of Success/Success Rate
 - A. Children who experience frequent failure, over a period of time, may experience *learned helplessness* and avoidance of academic tasks.
 - B. High success rates (or almost errorless performance) are especially critical to increasing student achievement among students who are ineffective learners.
 - C. Recommendations
 - (1) Students should complete tasks at a 70 to 90% success rate when under the direct instruction of the teacher and during initial learning.
 - (2) Expect higher success rates during independent activities.
 - (3) Set high expectations. For example, Good and Brophy (1986) observed some negative

teacher behaviors that occur when interacting with students they believe to be less capable.

- (a) Asking fewer questions and waiting less time for answers
- (b) More frequent criticisms and less frequent praise
- (c) Seating away from the teacher
- (d) Lower academic expectations
- (e) Differential grading in favor of high achieving students
- (f) Less frequent and less friendly interactions
- (g) Less eye contact and other forms of nonverbal communication that would result in increased student attending and responding

III. Principle 3: Content Coverage/Opportunity to Learn

A. Several factors influence content coverage decisions by teachers.

- (1) The effort required to teach the content.
- (2) The difficulty of the content
- (3) The teachers' personal feelings of enjoyment when teaching the content

B. Content coverage requires

- (1) Determining student needs
- (2) Assessing material level
- (3) Analyzing the prerequisite skills needed by students to access the content
- (4) Individualizing/evaluating the material covered

C. Effective teachers

- (1) Adapt instruction for students
- (2) Use ability- and age-appropriate vocabulary for students

- (3) Adjust questioning levels to the ability level of their students
- (4) Make presentations at an appropriate level of difficulty
- (5) Plan enough time so that students have sufficient time to master content

IV. Principle 4: Grouping for Instruction

A. The most efficient approach to teaching occurs when the teacher conducts a lesson with the whole class and then provides ample practice for all students. This practice can be individualized through the provision of different activities based upon individual student need.

(1) Advantages of whole group instruction:

- (a) More efficient use of teacher time
- (b) More efficient student management
- (c) Increased instructional time
- (d) Increased peer interaction
- (e) Increased generalization skills

B. There is some evidence that crossage tutoring is beneficial for the special education tutors, but fewer positive effects are evident for the tutees. One approach to maximizing the positive effects for the tutee is to assure that there is a minimum of a year difference in the functioning level between the tutor and tutee (Elbaum & Vaughn, 1999).

C. In reading, student pairing is an effective instructional practice for students with disabilities (Elbaum & Vaughn, 1999).

V. Principle 5: Scaffolded Instruction

A. Scaffolded instruction is used to help students learn complex tasks by structuring the environment and supporting the learner to make skills(s) easier. Provide support and

structure and then systematically remove them.

(1) Six characteristics of scaffolding:

- (a) Enlist learner's interest
- (b) Reduce number of steps to solve problem
- (c) Keep learner in pursuit of task
- (d) Accentuate critical features of task
- (e) Keep learner stress at a minimum
- (f) Explicitly demonstrate or model task completion

VI. Principle 6: Addressing Forms of Knowledge

- A. Semantic or Declarative Knowledge: Factual knowledge that one brings to a task. For example, A student's existing knowledge about the properties of computer maintainance can assist in a networking unit.
- B. Procedural Knowledge: Knowledge one has of certain processes or routines. For example, the student knows specific steps to follow for dividing numbers.
- C. Conditional Knowledge: Knowing when and where knowledge--procedural or declarative-- should be applied (e.g., when and where to use a specific learning strategy). For example, a student must know when to use a paraphrasing strategy across tasks (e.g., book reports, studying for a test) and learning settings (e.g., science, social studies).

VII. Principle 7: Activating and Organizing Knowledge

- A. Link activities to student prior knowledge at the onset of instruction through questioning and review.
- B. Present information to students in an organized manner to aid future retrieval.
- C. Plan for transfer of knowledge and skill.

VIII. Principle 8: Teaching Strategically

A. Self-Instructional Training

(1) Involves teaching the students specific verbalizations in a step-by-step sequence

(Meichenbaum & Goodman, 1971)

(a) Teacher models the task while talking aloud as child observes

(b) Child performs the task, instructing himself aloud with teacher assistance

(c) The child performs the task aloud with no assistance from the teacher

(d) The child performs the task as she/he whispers

(e) The child performs the task silently

B. Self-management

(1) There is an increasing emphasis and realization of the effectiveness of self-management

to improve academic and behavioral outcomes for students in middle school (Clees,

1994), high school (Prater, Hogan, & Miller, 1992), and for both students in both

environments with LD (Harris, 1986) and EBD (Lloyd, Bateman, Landrum, &

Hallahan, 1989).

Stages of Learning (Sugai, 1986 a & b)

- I. Instructional programming may vary according to the kind of learning that is observed. A student's academic performance may be characterized in one of five different learning stages.
 - A. Acquisition phase of learning
 - (1) Definition: Condition in which a student has never displayed the skill or has shown it at extremely low correct rates.
 - (2) Example: A student who has never had a checking or savings account requires specific instructional assistance.
 - (3) General instructional emphasis
 - (a) Focus on strategies that emphasize presentation of instruction and the shaping of correct responses.
 - (b) Focus on regular and meaningful feedback for correct responding and on corrective feedback for student errors.
 - B. Fluency or proficiency phase of learning
 - (1) Definition: Condition in which the student has demonstrated accurate responses, but inaccurate rates or frequencies of responding (i.e., too fast or too slow).
 - (a) For example, a student has learned to balance a checking account accurately, and begins to become more proficient but is still behind his/her peers.
 - (2) General instructional emphasis
 - (a) Increase student motivation by giving him/her immediate and positive feedback for a higher rate of correct responses and rates.
 - (b) The student can manipulate time to assist proficiency.

- (c) After the desired proficiencies have been demonstrated, the teacher should gradually decrease the amount and frequency of feedback.

C. Maintenance phase of learning

- (1) Definition: Condition in which the student has demonstrated accurate and fluent responding and this level of responding endures over time.

- (a) For example, a student may be able to demonstrate accurate and proficient skills with balancing a checking account, and the focus is on maintaining the same level of proficiency over time without the same (intensive) level of instruction.

- (2) General instructional emphasis

- (a) Focus on making instructional feedback/reinforcement even more intermittent.
- (b) Increase the delay between the student's response and the teacher's feedback.

D. Generalization phase of learning

- (1) Definition: Condition in which the student has acquired a proficient and enduring response, which is also observed under varying conditions.

- (a) For example, a student becomes competent at balancing a checking account during workbook exercises and proficiently in the classroom simulation, but has difficulty using these skills upon release.

- (2) General instructional emphasis

- (a) Focus on teaching the behavior or skill under varied training conditions (i.e., vary instructional materials, trainers, settings).

E. Adaptation phase of learning

- (1) Definition: Condition in which the student modifies a learned behavior to produce successful outcomes under varied instructional or response conditions.

(a) For example, a student may be competent at maintaining an accurate account balance when using checks, but is unable to do so when using an ATM card to withdraw or deposit funds.

(2) General instructional emphasis

(a) Focus on teaching rule-governed behaviors that require adjustments of the instructional behaviors for successful outcomes.

(b) Focus on teaching rule-governed behaviors under a variety of environmental conditions.

(c) Focus on teaching problem-solving sequences that can be applied to a variety of conditions.

Empirically Validated Instructional Practices

I. Direct Instruction (DI)

A. Defined: “The systematic analysis, selection, and sequencing of examples that effectively present generalized rule relationships to students” (Nelson, Scott, Polsgrove, 1999, p. 22).

B. The results from meta-analyses support the use of Direct Instruction (Lloyd, Forness, & Kavale, 1998) and these practices are also effective for culturally diverse students labeled EBD (Council for Children with Behavioral Disorders, 1989; Friend & Bursuck, 1996; Gersten, Brengelman, & Jimenez, 1994).

(1) This is especially relevant given the overrepresentation of African-American youth in juvenile corrections.

C. Direct Instruction includes six components (Maccini & Gagnon, 2000, pp. 4-5):

(1) Explicit strategy instruction (i.e., teaching a strategy that can be generalized to many examples or problems)

(2) Mastery learning (i.e., having students reach a criterion before advancing to a new step)

(3) Error correction (i.e., immediate teacher correction if a student errs via prompting or repeating the fact). “Effective teachers use errors as opportunities to provide further instruction and to move students toward self-evaluation” (King-Sears & Cummings, 1996, p. 219).

(4) Fading teacher involvement as the student assumes more responsibility for learning the material

(5) Wide range of examples and nonexamples to enhance generalization

(6) Cumulative reviews of previously learned skills

II. direct instruction (di)

A. Lewis, Heflin, and DiGangi (1991, pp. 15-16) review general teaching methods identified by Rosenshine and Stevens (1986).

- (1) Clearly communicate to students the goal/purpose of the lesson.
- (2) Present a well-organized, sequenced lesson.
- (3) Use a lead-model-test strategy when presenting new material.
 - (a) Explain key concepts of the lesson (lead).
 - (b) Demonstrate how to perform the skill of the lesson (model) through examples and nonexamples of the skill.
 - Tasks during guided and independent practice should provide students with questions that are both lower order (i.e., knowledge, comprehension) and higher order (i.e., analysis, evaluation); (King-Sears & Cummings, 1996).
 - Lower rates of inappropriate behavior occur when teachers provide appropriate modeling before asking students to respond to questions (Gunter, Shores, Jack, Denny, & DePaepe, 1994).
 - (c) Require the student to independently perform the skill (test).
- (4) Give clear instructional feedback (explain why an answer/response is correct/incorrect).
- (5) Begin each lesson with the expectation that the students can and will learn the new skill.
- (6) Ensure student success in each lesson by programming to promote high rates of student accuracy.
- (7) Use quick pacing during instruction.

Assessment and Evaluation (Sugai, 1986a & b)

I. Student Characteristics

- A. As many as 85% of students labeled LD may have difficulties taking tests (Alley, Deshler, & Warner, 1979).
- B. Many students labeled EBD may have difficulties with anxiety, stress, and are unable to focus with strict time constraints (Gallagher, 1995).

II. Clarifying the Terms *Assessment* and *Evaluation*

- A. Assessment is defined as the measurement of a set of skills.
- B. Evaluation refers to the decision-making process used to analyze student performance data (i.e., assessment) that results in modifications in the teacher's instructional programming.

III. Forms of Assessment and Evaluation

A. Summative assessment and evaluation

- (1) Defined: The measurement and analysis of student learning against a specific long-term objective at the beginning (pretest) and at the end (posttest) of instruction.
- (2) For example, when teaching a student a complex skill such as balancing a checking account, he/she would be administered a pretest prior to instruction, and then given a similar posttest after instruction. This information would allow for the determination of what skills the student has at the beginning and end of the lesson(s).

B. Formative assessment and evaluation (Transparency 4)

- (1) Defined: The continuous measurement and analysis of student learning and performance during the instructional process.

- (2) Effectiveness: Formative assessment (i.e., curriculum-based measures) and evaluations are effective and, when paired with reinforcement, there is an even greater benefit to students (Lloyd, Forness, & Kavale, 1998).
- (3) For example, student progress on account balancing would be monitored and evaluated throughout the lesson(s) rather than only at the beginning and end. This information supplies information regarding student success and error rates and allows for instructional adjustments and adaptations prior to student frustration. This also provides opportunities to the teacher for reinforce the students for correct responses and task completion.

Co-Teaching

- I. Defined: “Two or more professionals delivering substantive instruction to a diverse, or blended, group of students in a single physical space” (Cook & Friend, 1995, p. 2).
- II. Ideally, co-teaching would include teacher collaboration in the following areas (Cook & Friend, 1995):
 - A. Assessment
 - B. Setting educational and behavioral goals and outcome indicators for students
 - C. Designing and implementing of intervention strategies
 - D. Delivering of instruction
 - E. However, it is understood that each situation is unique and the feasibility of collaboration for each area may not be possible.
- III. Benefits of Co-teaching (Cook & Friend, 1995, p. 3)
 - A. Increases instructional options for students
 - B. Improves program intensity and continuity
 - C. Reduces stigma for students with special needs
 - D. Increases support for teachers and related service specialists
- IV. Types of Co-teaching (Cook & Friend, 1995)
 - A. Teacher and assistant: One teacher acts as the leader and the other provides support to individual students or groups of students.
 - B. Parallel teaching: Following collaborative planning, teachers split the class in half and each instructs a heterogeneous group.
 - C. Station teaching: Teachers divide content into segments and instruct small groups of students at separate locations or stations throughout the room.

- D. Alternative teaching: One teacher instructs a large group of students and the other teacher provides adapted instruction to a small group within the classroom.
- E. Team teaching: Teachers share the responsibility of instruction and may alternate the leading of a discussion or providing instruction and modeling of a skill.

Reading

- I. Why is this an issue?
 - A. Recidivism could be reduced by as much as 20% for juvenile offenders involved in effective reading programs (Brunner, 1993).
 - B. It is possible to significantly improve reading skills for low-achieving juveniles with a relatively brief intervention. However, despite significant gains in reading programs students continue to score well below nonlabeled peers. "This finding underscores the importance of ongoing, highquality reading instruction for low-achieving delinquents (Malmgren & Leone, 2000).
 - C. Nationally, the length of confinement in juvenile correction facilities averages 15 days (Parent, 1994).
 - D. Secondary students with ED function an average of 3.5 grade levels behind their nonlabeled peers in reading (Coutinho, 1986).
 - E. Students labeled LD function an average of 3.1 grade levels below nonlabeled peers in reading (Wagner, 1995).
- II. Teacher Response to Student Difficulties in Reading
 - A. Teachers often feel they must resort to simple and factual comprehension questions as an approach to teaching reading to students with disabilities.
 - B. Such an approach reduces the types of thinking that students are asked to perform and also allows for less creativity within reading activities.
 - C. One way to be aware of the types of tasks that students are asked to complete following readings is to refer to Bloom's taxonomy (1976).
 - D. An effective reading program should include activities that use each type of learning level.

E. Similarly, it is important to integrate activities that require reading and various levels of cognitive activity within other content areas, especially science and social studies.

III. Learning Levels (Bloom, 1976)

<u>Learning Level</u>	<u>Sample Process Skill</u>
(1) Knowledge	Define, Label
(2) Comprehension	Describe, Summarize
(3) Application	Demonstrate, Estimate
(4) Analysis	Compare and Contrast, Organize
(5) Synthesis	Design, Plan and Presenting
(6) Evaluation	Evaluate, Reason, and Conclude

IV. Example of using Bloom's (1976) Taxonomy for a unit on the *roaring 20s*

A. Topic: Women Granted Suffrage (Engle-Uity, 1984)

- (1) Knowledge: Make a scrapbook of pictures with captions recording changes in women's dress and appearance from the end of World War I until the crash of '29.
- (2) Comprehension: Identify the forces opposed to the Nineteenth Amendment. Design a greeting card for Carrie Chapman Catt to send to leaders of the opposition.
- (3) Application: Paint a mural dramatizing the U. S. Women's Suffrage Movement from 1880 to 1920.
- (4) Analysis: Distinguish trends and issues in the role of women in the work force since 1920. Prepare a report to deliver to the leadership of the American Federation of Labor during the 1929 summer conference.

(5) Synthesis: Assemble a group of prominent individuals of the '20s to exchange views on the growing independence of American women. Write a script for a "Meeting of the Minds" TV program.

(6) Evaluation: Choose one person who, in your opinion, did the most during the '20s to further the cause of women's rights. Draft a position paper to be presented at the next National Organization of Women Convention, proposing your candidate as a Charter member of the Feminist Hall of Fame.

V. Increase the Likelihood of Success in Reading (Polloway & Patton, 1997, pp. 269-270)

A. Reduce tension: Reading games, talking and listening on the topic that they will read.

B. Help the student feel successful through presenting activities at which students can succeed.

C. Promote and reinforce traits commonly associated with mature readers.

D. Assess test-teach-test.

E. Start with review: Begin each session with a brief maintenance activity.

F. Establish a purpose for reading: Activate prior knowledge and interest.

G. Select appropriate materials: Consider both difficulty and interest levels.

H. Provide sufficient opportunity for silent reading followed by a short time for questioning, summarizing, and sharing to informally assess comprehension.

I. Include writing tasks that relate to reading tasks.

J. Instill cooperation and trust: Explain why activities are chosen and share short term plans with students.

K. Involve parents (to the extent possible) on visits and after-school staff; Share reading plans with parents. Consideration can be given when placing students in a given facility (depending on the state and local policy) so they are near family who can visit them.

L. Teaching various cognitive processes for reading as decontextualized, stand-alone tactics rarely produce sustained reading improvement (Deshler, Ellis, & Lenz, 1996). However, meta-analyses verify that reading comprehension instruction is an effective approach to increasing the performance of students with special needs (Lloyd, Forness, & Kavale, 1998).

Although many learning strategies for reading may appear as a linear set of steps, teachers should remember that reading is not a linear process, but is recursive. Success in meeting the various reading demands can be enhanced greatly if students are taught specific strategies for comprehending text passages, perusing text chapters, integrating visual aids, and problem-solving unknown words (Deshler, Ellis, & Lenz, 1996); (see Figures 3 & 4).

Writing

- I. Factors Affecting Student Text Production
 - A. Researchers (Graham, Harris, MacArthur, & Schwartz, 1991) identify three issues that may impact student text production
 - (1) The physical demands of writing
 - (2) Utilization of ineffective strategies and processes
 - (3) An extensive focus on lower-level skills including spelling and punctuation
- II. Establishing a Writing Community (Bos & Vaughn, 1994, pp. 233-234)
 - A. Provide opportunities for sustained writing (30 minutes daily)
 - (1) Allow time to think, reflect, write.
 - (2) Make sure writing occurs regularly.
 - (3) Allow written pieces to be developed over several class period.
 - B. Encourage students to develop an area of expertise on which to write.
 - C. Maintain student writing folders to see progress over time.
 - D. Provide an environment rich in resources (e.g., dictionaries, books, magazines, sample of specific kinds of writing).
 - E. The teacher should model writing and share their method of composition.
 - F. Students and teachers should share writing.
 - G. Read to students. A link exists between student success in reading and writing.
 - H. Expand the writing community outside the classroom to the real world (to the extent possible due to the setting).
 - I. Develop students' ability to evaluate their own work and highlight the importance of rewriting.

J. Authorize individual students as *experts* in a given aspect of writing (e.g., generator, speller, plot master, listener, synonym finder).

K. Encourage students to use classroom *experts* as a writing resource.

III. Create a Constructive Atmosphere

A. Promote listening, questioning, and observing.

B. Encourage students to take risks.

C. Provide students with a variety of writing tools (e.g., colored pens, assorted paper, computer, typewriter).

IV. The Writing Process

A. The writing process is designed to provide a structured format for students for writing.

Although there are various formats of the writing process, it consists of five main parts that can be remembered with the acronym POWER (Englert, Raphael, Anderson, Anthony, & Stevens, 1991); see Figure 5)

P stands for Planning

O stands for Organization

W stands for Writing

E stands for Editing

R stands for Revising

B. Self-talk is one method to promote student independence and self-monitoring. The questions in Figure 6 can guide student-teacher conferences that may occur during any of the writing and revising stages.

Notetaking

- I. Purpose of Notetaking
 - A. Improves student attention.
 - B. Provides active engagement of students through the translation of ideas to meaningful written notes.
 - C. Supports the transfer of ideas from short- to long-term memory (Deshler, Ellis, & Lenz, 1996).
 - D. Provides an important skill for academic success (Robinson, Braxdale, & Colson, 1988), and students with LD and EBD often have difficulties focusing on the relevant and key ideas presented in lectures within their notes (Suritsky & Hughes, 1991).
- II. Notetaking consists of four components (i.e., listening, cognitive processing, writing, reviewing) and two factors influence student notetaking (i.e., student factors, teacher factors)
- III. Recommendations
 - A. Provide notes to students in order to minimize the amount of copying notes (Meese, 1994; Mohr, 1995).
 - B. Provide organizational structure to guide their notetaking. For example, give students an outline with the main ideas included and expect them to complete the important details under each main idea (Heward & Orlansky, 1992; Olson & Platt, 1996).
 - C. Provide cues to students that facilitate notetaking (Deshler, Ellis, & Lenz, 1996, p. 275).
 - (1) Organizational cues
 - (a) Today we will discuss
 - (b) The topic is
 - (c) First of all

(d) Second or Then or Next

(e) To review/summarize/recap/

(2) Verbal emphasis cues

(a) You should remember that

(b) You need to know/note/understand/remember/underline/think about

(c) The important/key

(d) Listen carefully

(e) Let me emphasize

(3) Subtle verbal emphasis cues

(a) Teacher asks rhetorical questions

(b) Teacher speaks more loudly or clearly

(c) Teacher stresses certain words

(d) Teacher repeats words

Math

I. Characteristics of Students with LD and EBD in Math

- A. Students with LD score 2.7 grade levels below unlabeled students (Wagner, 1995).
- B. Students with EBD score 1.8 grade levels below unlabeled students (Wagner, 1995).

II. General adaptations

- A. Student inappropriate behavior can be reduced by providing students with a sequence of short assignments rather than one long assignment (Dunlap et al., 1993).
- B. Using a common format on worksheets (i.e., listing of procedural steps, color coding, boxing or circling items) may enhance student performance (Bley & Thornton, 1981).

III. Math Reform

- A. A large number of states and local education agencies have committed to adherence to the National Council of Teachers of Mathematics Standards (Palmer & Cawley, 1995).
- B. Given this trend, it is important to consider effective strategies for teaching math that are aligned with the goals general principals, and content and process standards recommended by NCTM.
- C. The central goals (NCTM, 2000) are for students to:
 - (1) Value mathematics.
 - (2) Have confidence in their mathematics ability.
 - (3) Solve mathematical problems.
 - (4) Communicate mathematically.
 - (5) Reason mathematically.

IV. Math Strategy Instruction (Gagnon & Maccini, in press)

- A. Step 1: Provide an advance organizer to

- (1) Connect new information to previously learned skills .
 - (2) State the new skill to-be-learned.
 - (3) Provide the rationale introducing the new topic.
- B. Step 2: Provide teacher modeling
- (1) “Think aloud” to students while introducing a strategy.
 - (2) Then, fade teacher prompts while involving students in application of the strategy. For example, following the teacher model, students answer questions and write down their responses using the graphic organizers or structured worksheets.
- C. Step 3: Provide guided practice
- (1) Provide opportunities for students to practice the new strategy with teacher assistance.
 - (2) Fade teacher assistance until students can perform the task independently.
- D. Step 4: Provide student with independent practice. Assess student mastery of the skills by providing problems without teacher prompts/assistance.
- E. Step 5: Provide positive and corrective feedback throughout the lesson via five steps:
- (1) Document student performance (e.g., calculate the percentage correct).
 - (2) Target error patterns/incorrect answers.
 - (3) Reteach if necessary .
 - (4) Provide student practice with similar problems and monitor student performance.
 - (5) Close with positive feedback.
- F. Step 6: Program for generalization to other situations.
- (1) Problem-solving situations
 - (2) Content areas
 - (3) Real-world situations

- V. One example of a math strategy is the STAR Strategy (Maccini & Hughes, 2000).
- A. Search the word problem.
- (1) Read the problem carefully.
 - (2) Ask yourself questions: “What facts do I know?” “What do I need to find?”
 - (3) Write down the facts.
- B. Translate the words into an equation in picture form.
- (1) Choose a variable.
 - (2) Identify the operation(s).
 - (3) Represent the problem with the Algebra Lab Gear (CONCRETE APPLICATION) or draw a picture of the representation (SEMI-CONCRETE APPLICATION) or write an algebraic equation (ABSTRACT APPLICATION).
- C. Answer the problem.
- D. Review the solution.
- (1) Reread the problem.
 - (2) Ask question, “Does the answer make sense? Why?”
 - (3) Check answer.
- VI. Recommendations (Maccini & Gagnon, 2000, p. 19)
- A. When designing and implementing lessons for students with disabilities, incorporate elements of effective instruction such as teaching explicit strategy instruction, teacher modeling, guided and independent practice, monitoring student performance, using a wide range of examples and nonexamples, separate potentially confusing terms, and cumulative review.

- B. Select manipulatives related to the target concept or skill and students' level of functioning. Incorporate a variety of manipulatives with student- and teacher-led verbal explanations to illustrate and explain mathematical concepts. In addition, program for transitions from use of concrete manipulatives to abstract representations to promote student generalization.
- C. Provide lessons and activities that embed mathematics in real-world situations to foster student understanding of mathematics and promote generalization beyond the classroom.
- D. Integrate calculators within instruction and assessment activities via teacher-directed and more discovery-based approaches. Keep current on state-of-the-art technological advances and their classroom application.
- E. Individualize mathematics instruction through adjusted workload and modifications based on students' reading (e.g., reading to students) and writing (e.g., guided notetaking, oral responses to questions) skills.
- F. Implement positive pro-active, and consistent behavioral management strategies including praise and feedback, timeout, token economies and contracts, and preferential seating to provide specific guidelines for motivating students and encouraging appropriate behavior with mathematics classes.
- G. Provide additional time for students to complete mathematics assignments and assessments. Consider instructional design variables to provide enhanced skill acquisition and procedural competence.
- H. Provide opportunities for students to work in cooperative and group activities to promote positive social skills and concept/skill acquisition and retention.

Science/Social Studies

I. General Issues in Science and Social Studies Instruction

A. It is often assumed that scientific inquiry is more effective than direct instruction.

Conspicuous communication methods are more beneficial than either traditional telling methods or inquiry methods (Kameenui & Carnine, 1998).

B. Conspicuous communication methods combine interactive/experiential and teacher-directed activities.

C. Planned refutations

(1) Identify possible areas of student misconception and directly address these topics within instruction.

(2) This approach is effective in achieving conceptual change, and planned refutations are more effective than those that are spontaneous (Kameenui & Carnine, 1998, p. 125).

D. Review

(1) Sufficient review is necessary: Opportunities to apply concepts and review will facilitate problem solving and comprehension.

(2) Distribute review over time.

(3) Vary review.

(a) Provide a variety of practice and application activities.

(b) Provide activities based on real-world situations.

(4) Cumulative review

II. Overview of Teaching Devices

A. Definition of teaching devices: An instructional technique used to facilitate content

organization, understanding, information recall, and application (Bulgren & Lenz, 1996, p.

445).

B. Examples of teaching devices include tables, advance organizers, diagrams, study guides, stories depicting major concepts/themes.

C. General uses of teaching devices (Bulgren & Lenz, 1996, p. 445)

(1) Make abstract information more concrete.

(2) Connect new knowledge with existing knowledge.

(3) Enable students who do not spell well to take useful notes.

(4) Highlight relationships and organization structures within the information to be presented.

(5) Draw unmotivated learners' attention to the information.

D. Suggestions for implementing teaching devices (Bulgren & Lenz 1996, p. 461)

(1) Select an instructional device.

(2) Develop a set of steps that can be used to link the content in the device to the student.

(3) Inform students about the device and routine by teaching them how to recognize the device and how it should be used.

(4) Cue students each time the device is used.

(5) Do the routine on a regular basis in a flexible and creative manner that builds a learning partnership with students.

(6) Review information included in the device to check for understanding and use of the device.

(7) Prompt students to think about the strategies they are using when they use the routine.

III. Advance Organizers (Bulgren & Lenz, 1996, p. 448; Lenz, 1984)

A. Twelve types of advance, lesson, and post organizers that can be used singularly or in combination

- (1) Informing students of the purpose of the organizer
- (2) Clarifying the actions the teacher is to take
- (3) Clarifying the actions the student is to take
- (4) Identifying the topic of the learning task
- (5) Identifying subtopics related to the learning task
- (6) Providing background information
- (7) Stating the concepts to be learned
- (8) Clarifying the concepts to be learned
- (9) Motivating students through the use of rationales and examples
- (10) Introducing or repeating new terms or words
- (11) Providing an organization framework for the learning task
- (12) Stating the outcomes desired as a result of engaging in the learning activity

IV. Mnemonic Devices

A. Mnemonic devices are verbal or pictorial techniques that facilitate the recall of content area information by making it easier to remember (Schloss, Smith, & Schloss, 1995, p. 362).

B. Example: HOMES for the Great Lakes (Huron, Ontario, Michigan, Erie, and Superior)
Teaching mnemonic strategies for understanding and remembering what one learns are effective (Lloyd, Forness, & Kavale, 1998, p. 198).

V. Concept Diagrams (Bulgren & Lenz 1996, pp. 451-452)

A. Concept diagrams allow teachers to display complex or abstract information to help students understand the information.

B. The following information is displayed on a concept diagram

- (1) Concept name
- (2) Class into which the target concept fits
- (3) Key words associated with the concept.
- (4) Characteristics (qualities, traits, attributes) that set examples of the target concept apart from other concepts
- (5) Examples and nonexamples
- (6) *Working space* in which instances that are not yet defined as examples or nonexamples of the concept can be analyzed to determine if they fit within the definition of the target concept
- (7) Concept definition

C. Suggested instructional steps (Bulgren & Lenz, 1996, pp. 409-473; Polloway & Patton, 1997)

- (1) The teacher gives the concept name to students and explores key word and other related background information so that students may know about the concept.
- (2) The teacher works interactively to identify characteristics that are always, sometimes, or never present in examples of the concept.
- (3) Practice thinking about a new item that may or may not be an example of the target concept.
- (4) Construct a good definition of the concept.
- (5) Review the concept and the process of using the concept diagram.

VI. Study Guide

A. Statements or questions that relate directly to printed materials in textbooks (Schloss,

Smith, & Schloss, 1995, p. 361).

- B. Students perform better when using study guides than self-study (Horton & Lovitt, 1989).
- C. Adapting study guides (i.e., providing referential cues such as page numbers) to meet students' needs is an effective strategy (Horton, Lovitt, & Christensen, 1991).
- D. Students perform best when the study guide is completed with teacher direction (Horton, Lovitt, & Christensen, 1991).
- E. However, use of study guides alone is not adequate for students to achieve mastery. Use of this strategy should be combined with other validated strategies (Maccini, Gagnon, & Hughes, in press).

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Transparency 1

In Juvenile Corrections

45% of juvenile offenders have learning disabilities

7% of juvenile offenders have been identified as mentally retarded

42% of juvenile offenders have been labeled emotionally/behaviorally disordered (EBD)

44.4% of youth in one study were labeled as eligible for special education (as compared with 10% in the general population).

Key Components of Direct Instruction

1. Curricular design variables
2. Teaching techniques (including Direct Instruction or "DI")
3. Teaching methodologies ("di")

Eight Principles of Effective Instruction

1. Engagement time
2. Level of success/success rate
3. Content coverage/opportunity to learn
4. Grouping for instruction
5. Scaffolding instruction
6. Addressing forms of knowledge
7. Activating and organizing knowledge
8. Teaching strategically

Formative Assessment

The continuous measurement and analysis of student learning and performance during the instructional process

Summative Assessment

The measurement and analysis of student learning against a specific long-term objective at the beginning (pretest) and at the end (posttest) of instruction

Stages of Learning

- Acquisition phase of learning
- Fluency or proficiency phase of learning
- Maintenance phase of learning
- Generalization phase of learning
- Adaptation phase of learning