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## Instructional strategies

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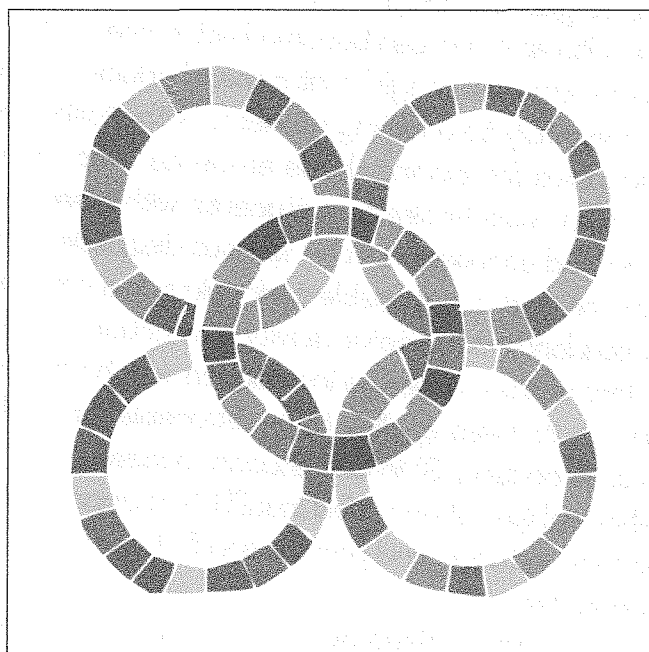
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## Quick Guide #12

# Instructional Strategies

Michael F. Giangreco and Lia Cravedi

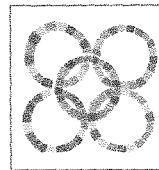


**Quick-Guides to Inclusion**  
**Ideas for Educating Students with Disabilities, Second Edition**

Michael F. Giangreco & Mary Beth Doyle

Editors

*Quick-Guides to Inclusion: Ideas for Educating Students with Disabilities (2nd ed.)* © Michael F. Giangreco, 2007  
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Dear Team Member,

Everybody is concerned about the quality of instruction offered by our schools because, in one way or another, it affects everyone in our community. When the learning characteristics of a student with a disability present a challenge, the reflection, problem solving, and action required to address those needs helps us gain new insights and skills we can apply to help other students learn, and ultimately we can become better teachers.



It used to be assumed (wrongly) that general education teachers could not contribute successfully to teaching students with disabilities—that was one of the key rationales for placing those students in special education classes. In far too many special classes, students with disabilities encountered low expectations, limited access to peers without disabilities, too much instructional downtime, and questionable curriculum. In a small number of select situations, students did receive quality instruction, sometimes referred to as systematic instruction. While the instruction may have been technically stellar, too frequently it: 1) was applied to questionable curriculum content, 2) was applied out of context, 3) limited student access to typical places, activities, and relationships, 4) provided insufficient opportunities for generalization across settings and people, and 5) insufficiently addressed students' learning styles.

Placement in an inclusive class sets the stage to address these problems—but placement is not enough. The challenge is to apply these time-tested ideas about good teaching, including systematic instruction, in new and contextually viable ways. These are instructional strategies you already know, though possibly by different names. Remember, the principles of teaching and learning do not change just because a label has been put on a child—so individualize what you already know about good teaching.

Good Luck!  
Michael & Lia



## GUIDELINES-AT-A-GLANCE

1. Know Each Student's Characteristics and Learning Styles
  2. Establish Shared Expectations
  3. Plan How Learning Outcomes Will Be Addressed
  4. Provide Sufficient Learning Opportunities
  5. Involve Everyone in Whole-Group Instruction
  6. Use Good Teaching Methods
  7. Use More Good Teaching Methods
  8. Use Even More Good Teaching Methods
  9. Collect Data on Student Learning
  10. Use Data to Make Instructional Decisions
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## Know Each Student's Characteristics and Learning Styles

It may seem almost too obvious to mention, but good instruction begins by knowing your students' characteristics and learning styles across a variety of dimensions.

There is an unproductive tendency in special education to focus too much on a student's disabilities or perceived deficits. Although disability characteristics are important to consider, it is a student's attributes and abilities that will be equally, if not more, helpful in designing instruction and selecting environments conducive to learning. For example, knowing that a student is blind eliminates certain visual approaches to instruction, but doesn't provide constructive information to build upon.

Conversely, knowing that a student has good tactile discrimination and hearing abilities is much more useful from an instructional standpoint than simply being aware that a student is blind. Knowing that a student with physical disabilities cannot effectively point using his hand again eliminates certain options, but knowing he has excellent control of his head, eyes, and breathing opens options to point using eye gaze, a head pointer, or a pneumatic "sip and puff" switch attached to a computer.

There are many potential sources of information about student characteristics, such as parent interviews, reports from support service specialists, direct observations, and conversations with last year's teacher—but nothing can replace the knowledge you will gain through ongoing, personal teaching interactions with your students who have disabilities.

Ask yourself what you know about the student's abilities, attributes, and characteristics in these categories: 1) *Cognitive* (e.g., has good categorization and memory skills); 2) *Physical* (e.g., has consistent motor control over head movements side to side; has functional use of right hand); 3) *Sensory* (e.g., can orient toward the source of sounds; prefers using materials with smooth textures); 4) *Social/Emotional* (e.g., has an even temperament; very sociable; enjoys interactions with peers); 5) *Motivational* (e.g., is motivated by participation in games and activities); 6) *Interactional* (e.g., prefers working in small groups); 7) *Creative* (e.g., likes drawing and participating in performance art; likes folk music). Use these categories to design instruction that builds upon each student's strengths and abilities.



## Establish Shared Expectations

**A** common source of anxiety for classroom teachers is not having an understanding of what others, such as parents, administrators, and special educators, expect of them: “Do you expect me to teach this student most or all of what the other students without disabilities are learning?” Whether the answer is “Yes” or “No,” it is important to ensure everyone shares a common expectation of what the student should learn and who will be responsible for teaching. Although this conversation needs to occur among the adults involved in teaching a student, all too often the student is inappropriately left out of this loop.

Good instruction requires that students be aware of their teachers’ expectations regarding preparation for class (e.g., homework), participation in class, targeted learning outcomes, and how learning will be assessed (e.g., products, outputs, other demonstrations of learning). Expectations should be at an appropriate level of difficulty so they offer a challenge but are reasonably attainable. Students should share ownership of their own learning. This may include options such as being involved in determining IEP goals, making choices about content or assessment within teacher-generated parameters, or self-monitoring progress. Self-advocacy and choice making are critical skills that should be intentionally taught and practiced.

A good place to start is for the team, including school personnel and the family, to identify a small, individualized, set of priority learning outcomes. Next, agree on a set of additional learning outcomes that reflect a broad-based educational program to ensure students’ access to the general education curriculum. Many students with disabilities also need general supports that are provided to or for them (e.g., specialized equipment, positioning, personal care needs) to allow for their participation in class.

It can be helpful to summarize these three categories of the educational program: 1) priority learning outcomes, 2) additional learning outcomes, and 3) general supports, on a one- or two-page Program-at-a-Glance. Clarifying expectations using this type of concise listing can assist in planning and scheduling, serve as a helpful reminder of the student’s individualized needs, and provide an effective way to communicate student needs to all teachers, including those in specialized areas such as art, music, and physical education.



## Plan How Learning Outcomes Will Be Addressed

**P**lanning an inclusive lesson requires the teacher to creatively integrate many pieces of knowledge about individual students, groups of students, the environment, potential learning materials and activities, as well as the subject matter and learning outcomes. This planning begins by knowing the individual learning outcomes targeted for each student during a lesson, regardless of whether it is a large or small group.

Although students with disabilities may have all or some of the same learning outcomes as the rest of the class during a lesson, at times their learning outcomes are different. The learning outcomes may be slightly or significantly different in scope or content within the same curriculum area (e.g., social studies). At other times, a student's learning outcomes may be from a different curriculum area than the rest of the class. For example, a student may be participating in a science experiment, but focusing on communication and literacy outcomes (e.g., describing an observation verbally and in writing). When it's not obvious which individualized learning outcomes are best suited to particular class activities, team planning can be facilitated by using variations of the *Osborn-Parnes Creative Problem-Solving Process* or other problem-solving approaches (see the reference list at the end of this Quick-Guide more information).

Once the class activity and learning outcomes have been identified, a series of basic questions should be asked and decisions made to plan the lesson. First, "What will I do as a teacher?" This includes factors like environmental arrangement, student groupings, materials, directions given, and extra cues provided. Second, "What will it look like when the student responds correctly?" This should be observable behaviors, and need not be limited to a single type of correct response. Third, "What will you do if the student responds correctly, does not respond, or responds incorrectly?" You must be prepared for all the various possibilities (e.g., correct responding, incorrect responding, nonresponding, partial responding, or mixed correct and incorrect responding). This may include components like feedback, reinforcement, correction procedures, prompts, additional time for responding, or additional opportunities for responding. Fourth, "How will you describe, measure, and document student progress so that it can be used to facilitate learning?" Remember, instruction is a cyclical process, so use what you learn to adjust your plans.



## Provide Sufficient Learning Opportunities

**M**ost students require frequent opportunities to interact with content or to practice a skill in order to learn it. This is true for students with disabilities as well, and sometimes they need even more opportunities.

As you consider how learning outcomes will be addressed in classroom activities, think about the various opportunities you can provide for students to experience those outcomes. For example, if a student has the learning outcome “initiates interactions with peers,” consider appropriate times when that skill could be practiced within various activities.

One implication of providing a sufficient number of learning opportunities distributed throughout the day and week is that the team must intentionally focus on a set of important learning outcomes that they can reasonably address and also plan activities that purposely provide opportunities to work on multiple learning outcomes. For example, many academic, communication, and social skills (e.g., writing, instruction following, describing, turn taking) can be embedded across numerous activities throughout the day.

If students are working in pairs or small groups, opportunities to interact are naturally occurring and appropriate. Using a matrix with class activities across the top and a student’s goals down the side can help identify intersections of learning opportunities. Remember, it is okay to ask for help. There are people in your school, or available to your school, to help you identify opportunities for your students.

With the need for multiple opportunities to interact with content, as well as to practice skills at different times and in different situations, comes a need for the student to experience consistency. If you have decided to cue or reinforce a skill in certain ways, you and other classroom staff (and maybe even students) need to feel comfortable enough with those procedures to be able to be consistent in their use.

To be truthful, this is sometimes difficult, and mistakes may be made—that’s unavoidable. What is important is that you are thinking consciously about what you are doing and how you are doing it. As you consider consistency, think beyond the immediate classroom staff to special area teachers, office staff, cafeteria workers, and schoolmates. Only pursue this extent of consistency in situations where it is critical. Some naturally occurring variations can facilitate generalization across settings, people, and cues that are desirable for optimal functioning and participation.





## Involve Everyone in Whole-Group Instruction

**T**eachers group students for instruction in a variety of ways, depending on the nature of their goals. Whole-group instruction is among the most frequently used arrangements. Although it can be a challenging format to individualize, it is possible and necessary to do so. Establish early on that everyone is expected to participate. Have students clear their desks of any materials unrelated to the lesson at hand, and make sure that the physical environment is arranged to facilitate participation. Move among your students, rather than standing in one spot. Make it a practice to call on students randomly, rather than only those same students who always seem to raise their hands.

Help students get ready for learning by creating an agenda and using other advance organizers that activate prior knowledge and introduce key vocabulary and concepts. Use graphic organizers, such as concept maps or webs and timelines, to identify main points, illustrate steps in a process, and show relationships between ideas. Individualize, by varying the amount and complexity of the questions you ask, to match what you know about individual students.

Remember the importance of wait time, cueing, and using both positive and negative exemplars. You may need to provide some students with disabilities questions ahead of time, so they can be ready to participate; this might involve extra learning time, having written notes or graphics, or preprogramming a communication device. In addition to calling on individual students, intermix whole-group questions that require all students to respond simultaneously, chorally (when age appropriate), using thumbs-up or -down, or by writing on individual white boards to get a quick sense of students' understanding, knowledge, reactions, or feedback. Use "think-pair-share" and other quick grouping strategies to facilitate peer-to-peer interaction and provide variety within whole-class instruction.

Help your students to develop and use mnemonic devices to remember content or processes. For example, ROY G BIV cues students to the colors in the spectrum, and COPS—Capitalization, Overall appearance, Punctuation, and Spelling (Lewis & Doorlang, 1999) is a great way for students to remember how to proofread written work. These are just a few things you can do to enhance whole-group instruction and ensure that students with disabilities are appropriately included.



## Use Good Teaching Methods

**M**any students with disabilities respond favorably to the same teaching methods that are effective with students who do not have disabilities. Some of these common methods include: modeling and demonstration, class discussion, repeated exposure and practice, guided discovery, experiments, field-study, participatory activities, use of multi-media technology, use of question-asking strategies, use of manipulative materials, educational games and play, use of positive and negatives examples, corrective feedback, and individual or small group projects.

Challenges arise when students do not progress adequately using typical instructional methods. In such cases, instruction must be augmented using more precisely applied methods. What follows here, as well as in Guidelines #7 and #8, are some instructional methods that can be applied within the context of typical class activities. Don't be intimidated by the technical names that come from the field of applied behavior analysis, because you will recognize that you have used many or all of these strategies before.

Selection of these instructional methods should be based on: 1) which method, or combination, is most likely to be effective based on your knowledge of the student's characteristics, 2) the nature of target learning outcome, and 3) which method can be applied in the most socially appropriate or status-enhancing way in typical settings.

For example, if you are a teacher of primary grade students and typically use stickers or smiley faces to acknowledge students' progress or accomplishments, it may be appropriate to do so for a student with a disability in your class. Conversely, if you are a high school teacher who never uses stickers or smiley faces with your teenage students, it would be inadvisable to use them with students who have disabilities.

If you've ever taught a child to tie his or her shoelaces or do long division, you may have used *task analysis*. Task analysis involves taking a skill and breaking it down into its component parts of student behavior to facilitate learning. Task analyses can include fairly large chunks of behavior, or those that are quite small—this depends on the complexity of the task and the skill level of the student. Each step in a task analysis has a built-in cue that serves as a naturally occurring prompt for the next step. You may find that a student is having a problem with a particular part of a skill and that may be the only part that needs to be task analyzed.

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## Use More Good Teaching Methods

If you've ever taught someone dressing skills, at school or at home, you've probably used some form of *chaining*. Forms of chaining include: 1) *continuous chaining* (teaching all the steps of the task analysis); 2) *forward chaining* (teaching the steps of the task analysis from the beginning until the student makes an error; instruction proceeds only after the step is mastered); and 3) *backward chaining* (prearranging a task so that all the steps are complete except the last one; the last step is taught until it is mastered, and then you sequentially move backward through the sequence until you reach the beginning).

When using *backward chaining* to teach a student to zip a coat, the teacher would do all the steps except pulling the zipper up the last few inches. The student would then be expected to pull the zipper up from half way, then from near the bottom. The last step taught would be joining the two parts of the zipper together. This approach can be motivating, because it ends in successfully completing the task. It can be especially effective when a skill is taught in context and followed by a natural and desired consequence (e.g., "After you zip up your coat, it will be time to go outside for recess.").

If you've ever taught a child how to ride a bike, cross the street, or dial a phone, you may have used *errorless learning*. Errorless learning refers to guiding a student through a task using sufficient prompts so that the student can be successful as quickly as possible while making as few errors as possible (hopefully none). Errors are interrupted as they occur, and guidance is provided. In some cases, it can be important to back up and have the student repeat the last step they completed correctly, then guide him through the step where he had difficulty. As the student becomes more proficient, the guidance is faded. Errorless learning provides more opportunities for practicing a skill correctly, and is useful for tasks where errors just won't do (e.g., crossing the street).

If you've ever taught a child how to read a face clock, you may have used *cue redundancy*. Cue redundancy is when you exaggerate the relevant dimension of a cue to discriminate between it and other cues. For example, when teaching the difference between the hour and minute hands on a face clock, length is the relevant dimension (not color or shape). Using cue redundancy, you would exaggerate the difference in length by making the hour hand very short and the minute hand very long, and then fade toward more typical lengths.



## Use Even More Good Teaching Methods

If you've ever taught a child how to compose a story, you've probably used *shaping*. Shaping is simply reinforcing increasingly proficient approximations of skill. For example, in composition, teachers expect increasing detail, description, spelling accuracy, and proper use of grammar. Shaping is, by its very nature, a developmental process of starting where the child is and moving forward at an individualized pace. Shaping acknowledges and reinforces what a student can already do, and then pushes him another step or two further toward proficiency or advanced skillfulness.

If you've ever taught a child early handwriting skills, you've probably used *prompts, cues, and fading*. Prompts and cues include approaches such as full physical guidance, partial physical guidance, modeling, verbal directions, questions, reminders, or encouragement, and visual clues. Prompts and cues can be provided prior to or following student responding. Prompts and cues should be faded as quickly as possible. Using dotted letters in handwriting instruction is a cue that eventually will be faded.

If you've ever taught a child to say "Thank you" in response to receiving something, you've probably used *time delay*. Time delay refers to the pairing of two cues simultaneously (zero delay). The established cue is one you know the student will respond to correctly, and the desired cue is the one you would like the student to respond to, particularly a natural cue. For example, when teaching a young child to say "Thank you," you want the child to respond to the natural cue of receiving something. You can start by simultaneously pairing the natural cue, such as receiving something tangible like a toy, drink, or cookie, with the established cue, "Say, Thank you," knowing the child is capable of saying or approximating, "Thank you." You would release the item to the child once he says, "Thank you." Once this is consistently established, a time delay (e.g., a couple of seconds) is inserted between the natural cue and the extra cue, and is gradually increased. When the time delay is long enough, the student responds "Thank you" before receiving the extra cue. Extra cues are often faded simultaneously as the time delay increases (e.g., "Say Thank you;" "What do you say?"). Time delay can be especially valuable for teaching students who are not imitative.

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## Collect Data on Student Learning

**T**eachers often have an intuitive sense of how their students are progressing. In order to validate those impressions, or sometimes to challenge them, it is important to gather additional information through various forms of systematic data collection. Encourage your team to establish a disposition that values data collection, to maintain professional accountability and as a vital step in the teaching/learning cycle.

When measuring progress, you must first focus on the learning outcomes that have been identified for the student and translate them into behaviors that you can observe and document. A relatively small number of student learning outcomes (e.g., IEP goals) may require individualized data collection that you can establish with the special educator or related services personnel.

Learning outcomes that come from the existing general education curriculum can often be assessed using the same methods as the rest of the class. Start by selecting methods for evaluating behaviors that make sense and tell you what you want to know. There are many ways to do this, and you probably already use a number of them. Quizzes, tests, projects, observations, demonstrations, and work samples can all be used to measure progress. These various methods can tell you information like: 1) the percentage of accuracy the student has achieved, 2) the frequency with which the student uses a skill, 3) the rate at which the student accomplishes a task, 4) the quality of work the student generates, 5) the duration of time a student's attention can be sustained, 6) the number of steps in a series (e.g., from a task analysis) that the student can successfully complete, or 7) the extent to which a student's valued life outcomes have improved as a result of working on certain learning outcomes.

The data collection methods you choose and the information you seek should be directly related to the student's learning outcomes. For example, think back to the learning outcome mentioned in Guideline #8: "initiates interactions with peers." Given that stated outcome, you might want to use observation as a method to measure the frequency of interactions during small groups with classmates. Whatever the learning outcomes, the data collection method should be agreed upon by the student's team, and the data should be collected by a variety of team members, including the student when appropriate.



## Use Data to Make Instructional Decisions

**N**ow you have some ideas about how to collect data about students' progress toward their learning outcomes. What's next? The data that you collect can be used in an active way to help you to understand students' current and future instructional needs.

In order to do this, you first need to think about: 1) the level at which each student is currently performing, 2) the level at which the student needs to perform in order to be considered accomplished, 3) how much time it might take for the student to meet this goal, 4) how frequently you will collect information about the student's progress, and 5) when you should review the data to see if goals have been reached. If data is simply collected—not reviewed and used—it may as well not be collected at all.

Once you have some data to look at, you need to ask yourself what the data is telling you. It may show that the student: 1) is ready to move forward and pursue a new learning outcome or a higher level of performance related to the existing outcome, 2) needs more time to accomplish the outcome, or 3) requires more or different teaching strategies. It would not be unusual for the data to suggest more than a message for future action.

After the team has decided what they think the data means, it is time to consider possible actions based on your knowledge of the student and situation, to select a course of action, and to take that action. Your action doesn't have to be earth shattering; it can be small and simple yet still be potent, because it establishes a pattern of action based on data review. As Alex Osborn once stated, "A fair idea put to use is better than a great idea left on the polishing wheel" (Parnes, 1988, p. 37).

Though it is common and appropriate to consider instructional and curricular changes, in some cases you may also want to change your data collection method. Your existing methods may not be providing you with the information you are seeking, or may not be sensitive enough to detect modest levels of progress—this is particularly important for students with severe disabilities, who have slower rates and inconsistent patterns of learning. Whatever you decide needs to happen instructionally, it has been informed by the data you have collected.

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