

Think Smart:

Using Mindsets and Metacognition for
Student Success



dreamstime.com

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What is a Cognitive Process?



- The term cognitive process is a modern term for concepts like ability or intelligence
- The term cognitive process describes a foundational neuropsychologically identified ability
- Cognitive processing abilities provide us the means to function in this world and acquire knowledge and skills
 - ▶ Cognitive processes lead to the acquisition of knowledge and skills
 - ▶ Skills, like reading decoding or math calculation, are *not* examples of cognitive process
 - these are sets of specific knowledge and skills acquired and/or performed by the application of cognitive processes
- A specific cognitive process provides a unique kind of function (ability)
- A variety of cognitive processes is needed to meet the many demands of our complex environment
- A variety of cognitive processes gives us away of achieving the same goal using different types of or different combinations of processes (this is important for intervention planning).
 - ▶ Specific skills like blending sounds together in order to make a word are not a special type of cognitive processing
 - A cognitive process which is specifically used for working with serial information is used to perform this act (e.g., Successive processing; see Naglieri, 2005).
 - ▶ J. P. Das and I (Naglieri & Das, 1997; 2005) relied on an understanding of how the brain functions based on the neuropsychological work of A.R. Luria
 - This approach allowed us to be unencumbered by what is included in traditional IQ tests
 - or a current topic of interest
 - ▶ Naglieri and Das had a theory of ability and built the CAS test according to that theory



Naglieri and Das, 2005

- problem solving
- developing plans and using strategies
- retrieval of knowledge
- impulse control and self-control
- control of processing



- Evaluate a task
- Select or develop a strategy to approach a task
- Monitor progress during the task
- Develop new strategies when necessary

- selective attention
- focused cognitive activity over time
- resistance to distraction

- Focus on one thing and ignore others
- Resist distractions in the learning environment

[illegible]

Pass Theory, cont.

Naglieri and Das, 2005

Simultaneous processing is a neurocognitive ability a person uses to integrate stimuli into groups

- Parts are seen as a whole
- Each piece of information is related to others
- Visual spatial tasks like blocks and puzzles on the Wechsler Nonverbal Scale
- KABC Simultaneous Scale

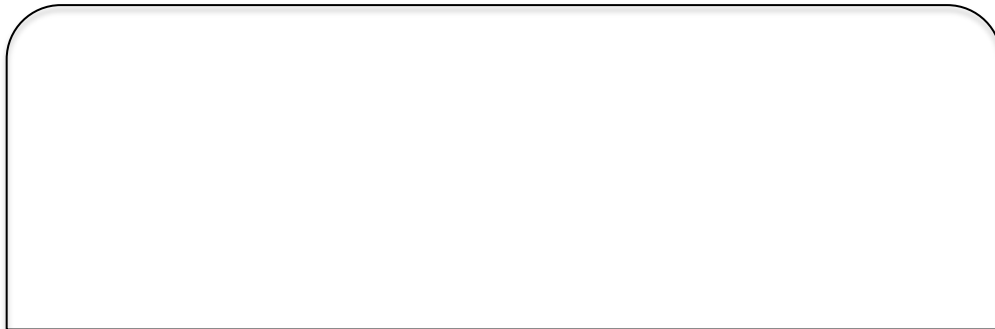
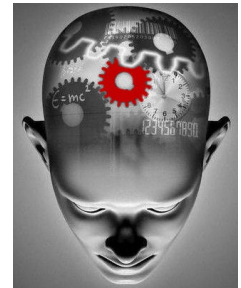
Simultaneous Processing

- Relate separate pieces of information into a group
- See how parts related to whole
- Recognize patterns

- ▶ **Successive** processing is a neurocognitive ability that a person uses to integrate stimuli in a specific serial order
 - Pieces of information formed in a chain-like progression
 - Stimuli are not inter-related into a whole but organized into a sequence
 - Putting sounds in order to make words

Successive Processing

- Use information in a specific order
- Follow instructions presented in sequence



10 Easy Inspiring Learners Strategies Get ALL Kids Actively Engaged

Research Support (Can also use this to be transparent with your students about WHY you are using these strategies)

- Decades of research show that 20% of students do 80% of the talking.
- Current research shows that students retain 50% of what they learn from talking.
- Whoever is doing the most talking is doing the most learning.
- Movement and visuals cement learning.



Core Groups with Jobs

- At the beginning of the year, students are randomly assigned to groups.
- The group members are assigned jobs such as leader, recorder, teacher getter, timekeeper, life coach, organizer, etc.
- Groups can then give themselves a name, a silent signal, or a symbol.
- The teacher has the groups do fun community building activities, such as building the tallest tower from straws and tape, without talking!
- The groups stay together for a marking period, a semester, or a year.
- The core group responsibilities are as follows:
 - If anyone from the core group is absent, they get the make-up work and assignment from their core group members. (This buys the teacher valuable teaching time and builds responsibility.)
 - The teacher can always call the core group together at the beginning of end of class to plan, reflect, review, etc.

Numbered Heads Together:

- Number students off from 1 to 4 within their groups.
- Call out a question or problem (Example: Where do plants get their energy?)
- Students in teams put their heads together to discuss the answer. They must make sure everyone on the team knows the answer.
- Randomly call a number from 1 to 4 (use a spinner, draw popsicle sticks out of a cup, roll a dice, etc.)
- On each team, the student whose number was called says or writes the answer. He or she may not receive any help from his team at this point! If they didn't pay attention during the discussion, too bad!

Turn and Talk/Walk and Talk: Chat Chums

- Give students a prompt on the board, overhead or Power Point.
- Students turn and talk to a partner or stand up and walk (five giant steps) and find a talk partner.
- Students have 2-3 minutes to talk and share. While they are talking, the teacher is floating around the room listening for quality talk
- The whole class processes the talk, with the teacher noting quality talk that she heard while going around the room.

Stand and Share: (For discussions that involve several responses or for reviews.)

- Teacher poses a question and asks the whole class to stand, then asks for volunteers to share.
- The steps for Stand and Share are that 1.) once a student shares, they get to sit down, and 2.) if someone shares what you were going to share and you don't have another idea to contribute, you get to sit down.
- The teacher calls on students until all ideas have been presented and all students are sitting.
- (Note: Call on the shy or more struggling learners first, so they have the opportunity to contribute. Save the gifted students or more vocal students for last, as they will still have ideas to contribute.)



Vote on Your Feet:

- Give students a choice on a response of a question (EX: Do you think it's answer A or answer B?)
- Have them stand if they think it's A and then support their answer, then stand if they think it's B and support their answer.
- Discuss the rationale and determine which one is correct.
- Another version would be to have the kids vote by moving to a place in the room to vote YES, NO, or NOT SURE around a question or idea. (Do you think that schools have the right to allow only eating healthy foods?)

Stop and Draw:

- After you have taught students a key concept or key term, give them two minutes to stop and sketch their visual representation of that idea. (Tell them you are looking for very simple drawings like they would do if playing Pictionary.)
- After students do their sketches, have them share what they've drawn with their table mates or talk partners.
- Float around the room and look for quality and unique visuals to share with the whole class.

Clock Partners

- Give students a blank clock face with blank lines at specific times. (12, 3, 6, 9 o'clock)
- Students have 2 minutes to go around the room and "make a date" with 4 people who be their clock partners, one at each time slot.
- Throughout the class period, over the day or week, you can have students meet with their partners to share. (Meet with your 2 o'clock partner and do this or talk about that.)
- NOTE: You could also intentionally assign some of their clock partners by readiness or learning style.

Musical Matches

- Have students all stand up. Play music.
- When you stop the music, they must FREEZE. Then turn to the person nearest them and share.
- Repeat as needed.



Think/Pair/Share and Reflect/Pair/Share

- Give students a discussion prompt
- Have them think for 1 minute about what they know about the prompt (THINK)
- Then have them discuss their ideas for 2 minutes with a partner. (PAIR)
- Then pull students names randomly (names on popsicle sticks or index cards) for a whole class share. (SHARE) The rules are... they can't say, "I don't know." or something that somebody else already said, but they can get help from their partner (Lifeline) if they need help.
- Reflect/Pair/Share is the same as Think/Pair/Share, but the talk prompts are more metacognitive than cognitive. Students are asked to reflect on what they can do when they are stuck, or how they would approach a new learning task, etc.

TEACHING TIPS:

- Be transparent, tell students WHY these strategies help everyone be more successful.
- Model strategies and the kind of talk you expect students to use. Many students don't know how to talk about math, science, etc. They need to hear and see examples.
- Practice, practice, practice. Students will get better and thinking, sharing and learning together if you keep doing it. If you only pull these out once and awhile they are not as powerful.
- Catch them being GOOD! Instead of focusing you time talking about kids who aren't doing what they are supposed to do, spend your time talking about the kids who **are** doing the right thing. Kids need to see more examples of what to do and less of what not to do.

If ILS's aren't working...

Key Foundations for Uniting Students Emotionally, Culturally and Academically

Creating Independent and Interdependent Learners

HOW

- Intentional and Transparent:
- Model and Scaffold:
- Deliberate Practice:



WHAT

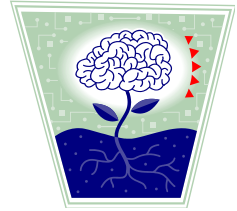
- Safe Environment
- Routines and Procedures
- Growth Mindsets
- Self Assessment
- Student Talk
- Mindfulness

Routines and Procedures



- **Key Issues for Managing Flexible Groups**
 - Smooth transitions
 - Teach students to work independently
 - Choose appropriate activities for independent work
 - Teach students to work interdependently
- **Teach Smooth transitions -- How to Move Into and Out of Groups**
 - MBM
 - Mouths: Quiet
 - Bodies: Hands down
 - Materials: What to bring with you
 - Pod Yourselfs
 - Colored Sticks/Clock Partners
 - Practice and Time
- **Teach students to work independently and interdependently**
 - Teach each independent activity as a separate set of lessons (with modeling and feedback)
 - How to get materials
 - What to do if you are stuck or need help
 - What to do if you are done early
 - Practice, practice, practice
- **How do I manage more than one group at a time?**
 - When introducing centers/stations, take sufficient time to explain, demonstrate, practice procedures, and clarify expectations one step at a time.
 - Establish rotation procedures that allow you to work with a small group without interruption.
- **What will other students do while I teach a small group?**
 - Provide opportunities for students to work in literacy-related centers or stations, on reading- and writing-related activities and projects.
 - Demonstrate activities in lessons before introducing them in a center/ station.
 - Link a variety of activities to reading skills/topics/content-area subjects.
 - Provide choices: some students need more practice than others.

Intentional and Transparent



- **YOU** know **WHY** you are teaching what you are teaching. (Intentional)
- **STUDENTS** know why they are learning what they are learning. (Transparent)
- Talk the talk! Tell students:
 - **What** they are learning
 - **Why** it's important to learn
 - **How** they learn
 - **How** to get closer to the target
 - **Strategies** to grow as effective learners

Frameworks for Intentional and Transparent Language

- Today we are learning _____. It is important because_____.
- We have been learning _____. Today we are going to _____ and this is important because _____.

Your thoughts...

Teaching Students About Planning

How Learning Depends on Planning Ability

The purpose of education is certainly to provide students with knowledge and skills, but researchers have found that children also need to learn how to learn. To achieve that goal, we must teach students to evaluate, apply solutions, self-monitor, and self-correct—in short, to plan their work and use plans to solve all types of problems. When we teach our students to become strategic, self-reliant, reflective, and flexible learners, we are teaching use of a method called *Cognitive Strategy Instruction* (Scheid, 1993), and this is an effective method.

When reading, and especially when obtaining meaning from text, the student must plan an approach to examining the information that is provided. This involves applying strategies to separate the important from the less important part of the text, concentrate on the details, self-monitor, and self-correct as needed. Students who are good at writing organize their goals before beginning and reflect and revise during and following production of the text. When doing math, students who are successful evaluate the problem, choose which method to use to solve it, evaluate the success of that method, change methods if necessary, and check the final answer carefully. This is also sometimes referred to as metacognition, problem solving, strategic behavior, or a self-reliant learning style. When we use cognitive strategy instruction, we are teaching students to think about what they are doing so that they can be more successful.

Importantly, these descriptions of how to learn, and the cognitive strategy instruction approach in general, are descriptions of the behaviors associated with the cognitive processing ability called *Planning* in this book (see the Planning Explained handout, p. 55). In order to help students be more successful, we must teach them to be more planful.

How to Teach Planning

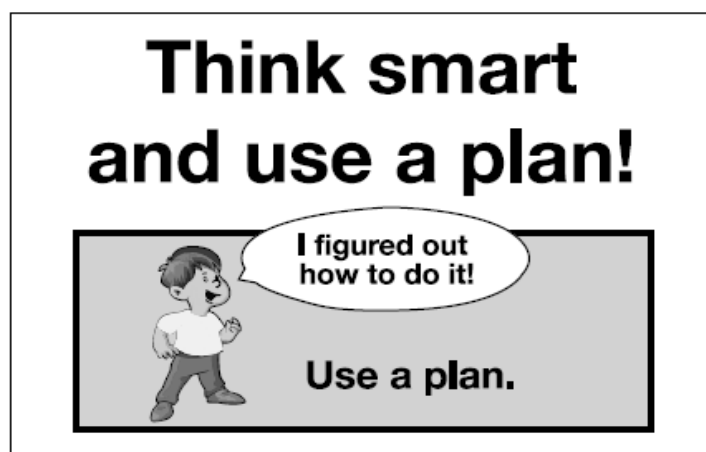


Figure 1. A drawing that helps students remember to use a plan.

The first step in teaching children to become strategic, self-reliant, reflective, and flexible learners is to tell them what a plan is and give them an easy way to remember to use a plan. In Figure 1 (which also appears in the PASS poster on the CD), we provide a fast and simple message: "Think smart and use a plan!" We should provide cognitive strategies in specific academic areas, such as decoding, reading comprehension, vocabulary, spelling, writing, math problem solving, science, and so forth, so that we

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teach children to approach *all* of their work with a plan (Pressley & Woloshyn, 1995). The parent or teacher should facilitate the use of strategies so that the student learns self-regulated strategy development and use.

Parents and teachers should only provide as much help to the child as needed and avoid teaching the child to rely on the adult for the solution. Because our goal is self-reliance, we have to carefully guide and encourage the child so that he or she can figure out how to solve problems without always depending on the teacher for the answers. Throughout the day, the teacher should

1. Teach children that a plan is a way to do something.
2. Encourage children by asking, "What is your plan?" or "Did you use a plan?"
3. Remind students to think of a strategy. If needed, provide one and explain when and where to use it.
4. Teach a limited number of strategies and encourage students to develop their own.
5. Teach strategy use in all areas of the curriculum.
6. Teach children that using a plan is also important in social situations, especially in sports, on the playground, and when playing many kinds of games.
7. Remind students that using a plan requires thoughtful examination of the problem, not rapid task completion.
8. Teach students to examine each problem carefully and always use a plan.

Resources

Pressley, M.P., & Woloshyn, V. (1995). *Cognitive strategy instruction that really improves children's academic performance* (2nd ed.). Brookline, MA: Brookline Books.

Scheid, K. (1993). *Helping students become strategic learners*. Brookline, MA: Brookline Books.

Metacognition = Self Regulation

In 2000, cognitive scientists and cognitive psychologists combined their knowledge in a book titled, "How People Learn." (National Research Council 2000) A key finding in their research is **that "a metacognitive approach to instruction can help students learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them."** The implication of this research is that the teaching of metacognitive skills should be consciously integrated into the curricula across disciplines and age levels.

While many of us can definition metacognition as thinking about thinking, we must ask ourselves if we have consciously integrated teaching students to be metacognitive consistently into our teaching practice. **Mindsets and metacognition go hand-in-hand in helping students to develop an internal locus of control.**

So as we build in the talk, stories and experiences, we must also teach students, from the time they enter our schools, to self-assess and self-monitor – to become metacognitive.

Three Stages of Meta-strategic Learning:

BEFORE: Developing a plan of action

DURING: Maintaining/ self-monitoring the plan

AFTER: Evaluating and adjusting the plan

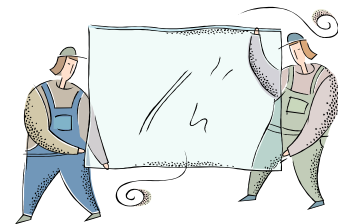
Metacognitive Questions Learners Should Ask Themselves...

BEFORE: (Developing My Plan of Action)

- What in my prior knowledge will help me with this particular task?
- What should I do first?
- Why am I reading this selection?
- How much time do I have to complete the task?

DURING: (Maintaining/ self-monitoring My Plan of Action)

- How am I doing?
- Am I on the right track?
- What information is important to remember?
- How should I proceed?
 - Should I move in a different direction?
 - Should I adjust the pace depending on the difficulty?
- What strategies do I need to use if I don't understand?



AFTER: (Evaluating My Plan of Action)

- How well did I do?
- Did my particular course of thinking produce more or less than I had expected?
- What could I have done differently?
- How might I apply this line of thinking to other problems?
- Do I need to go back through the task to fill in any "blanks" in my understanding?

Metacognitive Teacher Talk

Teacher-to-Student

Before Learning
<p>Today you might find there are some things that are new to you and you are going to get to grow from trying them.</p> <p>Does this remind you of something you've done before? How can you use that experience to help you with this new learning?</p> <p>Looking at today's work, what part do you think will be the most challenging for you? What can you do when learning gets to the GOOD part (the hard part) to help you continue learning?</p>
During Learning
<p>What parts are going well? What parts are making you grow?</p> <p>Why do you think this part is challenging for you? What do you need to help you? Do you need more information? More practice? A different way to practice?</p> <p>Have you done something like this before? What did you do when it got hard? Can you do it again?</p> <p>What do you know about yourself as a learner that can help you continue learning?</p>
After Learning
<p>How did you grow as a learner?</p> <p>Did you learn something new about yourself and how you learn?</p> <p>How can you use that in the future when something gets tough?</p>



Think **SMART!**

Stop and THINK

Make a PLAN

Take **A**ction!

Review/Reflect/Revise

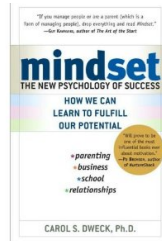
Ta da! (or) Try Again



Developed by Naglieri and Kryza, 2014

GROWTH vs. FIXED MINDSETS

Carolyn Dweck, Stanford University



Fixed mindset:

- Intelligence and talent are fixed traits.
- Talent alone creates success. Effort will not make a difference.
- You either get it or you don't.
- Time is spent documenting their intelligence or talent instead of developing them.
- _____



Growth mindset:

- Most basic abilities can be developed through dedication and hard work --- brains and talent are just the starting point.
- A love of learning and resilience is essential for great accomplishment.
- Virtually all-great people have these qualities
- _____



Mindsets:

Mindsets Plus Skills Sets Equal Results!

First Intentionally and Transparently teach students about Fixed vs. Growth Mindsets and their Learning Brains:

Feel It: Experience their own Mindsets

See It: See lots of role models of growth mindsets in action



Talk It:
Talk in Growth Mindset words

Own It:
Self assess and self reflect on their own mindsets

Living Growth Mindsets in Your Classroom

To keep growth mindset thinking it alive try the following:

- First, intentionally and transparently teach the students about fixed vs. growth mindsets and the brain research behind why shaping your mindsets changes you brain.
- Mindset Mondays: Every Monday, show a short video, a quote, something from the news, etc. that demonstrates or supports growth mindset thinking.
 - You will find lots of true stories and videos on Kathleen Kryza's website, www.kathleenkryza.com. Go to her YouTube channel link to find a collection of Growth Mindset videos.
 - You'll also find stories about inspiring kids at <http://www.inspiremykids.com>
- Look for role models and share their stories. Kids need to see good role models from their culture and in our current society.
 - Look for role models from the subject area you teach. There are countless scientists, artists, mathematicians, writers, etc. who achieved success through many failures and hard work!
- Feedback Fridays: Have students self assess what their mindset were over the week. Did their mindsets help or hurt? What could they do differently next week?
- Student and teacher talk needs to be growth mindset.
 - Talk growth mindset talk all the time. Teacher to student, students to students, students to self. Catch yourselves when you sound fixed and reframe.
 - Value effort by using effort language: Using power words like grit, ponder, wonder, curious, grapple, etc. remind students that success isn't magic, it's having the mindset and developing the skillsets that lead to success.
- Praise students for specific effort, not grades and scores.
 - Build a habit of letting students know specifically what effort that they put in that helped them move in a growth mindset way towards success. ("Wow, you did your homework this week and it paid off for you.", Your good attitude today really made it a pleasure to have you in class and you are a good role model for others.
- **Every day remind students that "Mindsets Plus Skill Sets = RESULTS!" (Great bulletin board or banner to have up in the classroom.)**

Other Ideas?



Examples of Self-Assessments

Early Elementary:

Plan: Students say or sign up (name on whiteboard) for their "plan" during center time.

Do: Students work in the centers





Review:

Students come together and share three fingers self-assessments around a clear target. i.e. (I used my time wisely. I cooperated. I cleaned up my space.) (3 fingers = Excellent, 2 = Good, 3 = Try Harder Next Time)

Students share strategies they used when they got stuck

Effort Rubric:

Used with permission from Peg Bird and St. Joseph County Michigan Intermediate Schools




EFFORT RUBRIC		
4 (Growth Mindset)		I worked on the task until they were finished. I saw difficulties as opportunities to strengthen my understanding.
3 (Fairly Growth)		I worked on the tasks until they were finished. I tried even when it was difficult.
2 (Somewhat Fixed)		I put some effort into tasks, but I stopped working when it became difficult.
1 (Fixed Mindset)		I did not try.

Learning Style Study Plan::

VOCABULARY EXIT CARD: Self Assessment					
DATE _____					
NAME: _____	LOW		HIGH		
1. I used my time wisely and had a good attitude	1	2	3	4	5
2. I completed work at each station	1	2	3	4	5
3. I understand the key terms better now	1	2	3	4	5
I learn vocabulary words best this way...					
Here's how I plan to study for my test based on what I know about myself as a learner					

Examples of Self-Assessments, cont.

Group Reflection:

How Our Group Did:			
We helped each other			
We all worked on the project			

“We must constantly remind ourselves that the ultimate purpose of evaluation is to have students become self-evaluating. If students graduate from our schools still dependent upon others to tell them when they are adequate, then we’ve missed the whole point of what education is about.”

-- Costa and Kallick, 1992

Other Self-assessment Ideas

STUDENT CHOICE VERIFICATION FORM

Non-Completion of Assignment

I, _____, have chosen not to
complete the following assignment:

Due Date: _____.

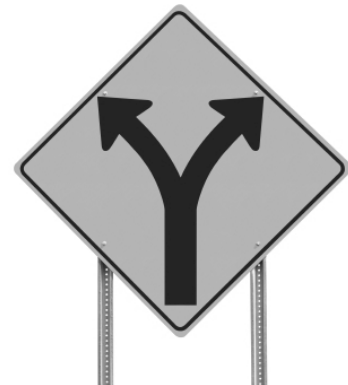
I understand that by making this choice, I will not be engaged in the learning process and thereby may be less prepared to handle the rigors of our competitive society.

I understand that by not doing this assignment I am choosing to receive a lower grade at the end of the marking period.

In signing this document, I acknowledge that I understand the consequences of not doing my schoolwork.

Student Signature: _____

Date: _____



Our Group:



Group Expectations	Date:	Date:	Date:	Date:	Date:

Rate your group from 1 – 5 for each group expectation. (One is the lowest, five is the highest.)

What does your group do well?

What does your group need to work on?

Teaching Students About Attention

How Learning Depends on the Ability to Attend

No one can acquire knowledge and skills without the ability to attend. What that means is that we have to be able to focus our thoughts on one particular thing and resist all the other things that are distracting us. This ability is called Attention, and it is related to a particular kind of cognitive processing. Students must be taught to recognize that their ability to attend has two important parts: focus and resisting distractions. Attention can be disrupted by hearing loud noises or seeing something that draws our attention from what we are trying to think about. Teaching students to recognize when their ability to attend is good or bad is especially important for maximizing performance in and out of the classroom. When we teach children to be aware of their ability to attend, we are using a cognitive approach to instruction (Scheid, 1993), and this is an effective way to teach.

Everything we do requires the ability to focus on some things and ignore others. We simply cannot attend to *all* of the information that our brain is receiving. In order to be conscious and functional beings, we must limit the number of things we attend to. To do so, we must resist attending to some things and stay focused on what needs our attention. In school there is much to attend to and many things that distract us from attending. Students hear others talking, a noise in the hallway, or the beep of a computer; they see a flash of light from the window; and so forth. Academic work involves much focus of attention. Students must attend to the instructions teachers give to the class while looking at the materials on their desks and at the same time avoiding distractions in the class.

Sometimes the materials themselves are distracting. Multiple choice tests require considerable ability to attend. For example, a typical math test might have a word problem with an answer of 12.5 with multiple choice options of a) 125, b) 15.2, c) 1.25, d) 2.5 and e) 12.5. The student who does not carefully attend to each of the options may be likely to choose option a) 125 because it contains all the correct numbers in the correct order; however, the decimal is missing! Careful attention is needed to solve this problem correctly. Teachers should keep in mind that multiple choice tests can require *both* knowledge of the academic content *and* the ability to focus attention and resist distractions.

It is important to recognize that when a child is having problems with Planning ability, the control of Attention will sometimes be poor. This is the case with children who have attention-deficit/hyperactivity disorder. Those students have a failure of control (see Goldstein & Naglieri, 2007; Naglieri, Goldstein, & Conway, 2009) often related to poor Planning ability. Their problems with Attention are related to the inability to control thoughts and behavior except in some situations that are highly structured and engaging (e.g., some video games). Children with a true problem with the ability to attend are different from those with a failure in Planning; they have considerable trouble paying attention and resisting distractions in their environment; however, they have good control of their behavior.

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When we teach students to recognize that Attention is needed to solve a problem, we are teaching students to use an important ability. This way of learning and the behaviors associated with the cognitive process of Attention presented in this book (see the handout Attention Explained, p. 57) will help students be more successful. We must teach children to be aware of this important ability and to use it effectively.

How to Teach Students to Attend

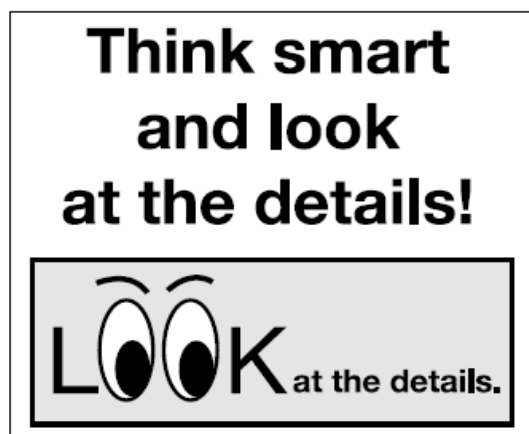


Figure 1. A graphic that reminds students to focus on information being discussed.

The first step in teaching children about their own abilities is to explain that they have many different types of abilities and that Attention is one of them. They also need to be aware of when their attention is focused and they are resisting distractions, as well as when it is divided among too many things, which leaves them unfocused and overloaded. In Figure 1 (which also appears in the PASS poster on the CD), we provide a fast and simple message: "Think smart and look at the details!" During appropriate times during the day, remind students to closely attend to information being discussed. We need to teach children to approach *all* their work with an understanding of how well they are focused on the details and resisting distractions in their environment. Throughout the day, the teacher should

1. Teach children to be aware of their level of attention and resistance to distraction.
2. Encourage children by asking: "Are you able to focus?" or "Are you getting distracted?"
3. Remind the students that Attention is necessary for reading, writing, and arithmetic, as well as in sports, playing a musical instrument, driving a car, and so forth.
4. Teach children that they may have to modify their environment so that they can attend better.
5. Remind students that learning requires attention to detail and resisting distractions.

Resources

- Goldstein, S., & Naglieri, J.A. (2007, October 22–27). Planning and attention problems in ADHD: What parents and teachers can do. *Attention*.
- Naglieri, J.A., Goldstein, S., & Conway, C. (2009). Using the Planning, Attention, Simultaneous, Successive (PASS) theory within a neuropsychological context. In C. Reynolds & E. Fletcher-Janzen (Eds.), *Handbook of clinical child neuropsychology* (3rd ed.). (pp. 783–800). New York: Springer.
- Pressley, M.P., & Woloshyn, V. (1995). *Cognitive strategy instruction that really improves children's academic performance* (2nd ed.). Brookline, MA: Brookline Books.
- Scheid, K. (1993). *Helping students become strategic learners*. Brookline, MA: Brookline Books.

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"Hey you! Pay ATTENTION"

According to Jack Naglieri, "Attention is a neurocognitive ability that a person uses to selectively attend to some stimuli and ignore others." This skill is vital for students to be successful in the classroom and in life. The good news is that we can help students strengthen their "attention muscles." Here are some strategies that we can use to guide our students to success:

- Break our direct instruction into segments of about 10 minutes. (CHUNK)
- Offer engaging opportunities in varied learning modalities for students to practice, process, and interact with new information. (CHEW)
- Periodically provide energizing "brain breaks." Check out these resources:
 - <http://www.edutopia.org/blog/brain-breaks-focused-attention-practices-lori-desautels>
 - <http://www.energizingbrainbreaks.com/sample-pages.html>
 - <http://www.minds-in-bloom.com/2012/04/20-three-minute-brain-breaks.html>
- Current research is teaching us more about the benefits of mindfulness practices in schools.
- Lead explicit "attention check-ins" Ask students to self-assess their level of attention.
- For students who have trouble sitting through a lesson, set up an ironing board in the back of the room for them to use as a standing desk.
- For students who are very tactile, consider offering them a medicine ball for a seat or something quiet for them to fidget with at their seat.

All students benefit from explicit instruction on attention strategies in order to learn how to resist distraction and focus on the right stimulus. Students can keep a list of attention tips in the front of their binder or taped to their desk so they have these helpful reminders handy during class time.



Teaching Mindfulness in the Classroom

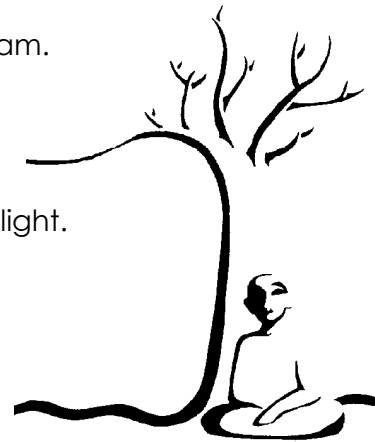
Mindful Strategies

Take Syn-naps or Mindful Moments:

- When students are feeling stressed or overwhelmed, have them take a mindful moment
- They can stretch, breath, listen to soothing music or sounds.

Three Minute Meditation

- Appropriate for a variety of settings, simply speak slowly and pause for 2 to 3 seconds between sentences. Pauses allow the receiver to go more deeply into a relaxed state.
 - Close your eyes.
 - I invite you, when you take your next breath, to just be more conscious.
 - Allow your breath to bring you into the present, here and now.
 - Breathe through your nose.
 - Inhale and nurture yourself.
 - Exhale and expel any tension and negative emotion.
 - Feel your connection to the floor.
 - Lift your chin so the top of your head is facing up towards the sky.
 - Relax your shoulders down like ice melting in a hot spring.
 - Relax your eyes, relax your jaw and relax your ears.
 - Notice your breath and allow it to bring you into the present moment where you're safe, relaxed and doing something positive.
 - Quiet your mind.
 - Let thoughts go by like leaves floating in a stream.
 - Bring your attention to your breath.
 - Disengage from the past and from the future.
 - Enjoy fully the present moment.
 - Begin to cultivate an inner peace.
 - A safe place in your heart, filled with love and light.
 - Breathe.



Sites or Programs on Mindfulness in Schools

- Mind Up: The Hawn Foundation
 - <http://thehawnfoundation.org/mindup/>
- Inner Explorer
 - <http://innerexplorer.org>
- Room to Breathe
 - <http://roomtobreathefilm.com/about-mindfulness/index.html>
- Mindfulness in Schools
 - <http://mindfulnessinschools.org>

Teaching Students About Successive Processing

How Learning Depends on Successive Processing Ability

The purpose of education is to provide students knowledge and skills, but researchers have found that children also need to learn *how* to learn. To achieve that goal, we must teach students to recognize that information is often organized in a specific sequence and learning that sequence is a key to success. Words are made by the proper sequence of sounds, sentences are understandable only when the words are sequenced correctly, math problems must be done in a particular order, and so forth. In other words, many tasks require that we follow a particular sequence or else failure will result. When we teach our students to recognize when sequencing is especially important, we are teaching using a method called *Cognitive Strategy Instruction* (Scheid, 1993), and this is an effective way to teach.

When learning to read, and especially when decoding words and spelling new words, the student must recognize how the information is sequenced. For example, the student must recall the sequences of the sounds to say the word “Mississippi.” Similarly, to understand the statement “The girl hit the boy” requires appreciation of the order of the words, especially to answer the question “Who got hurt?” The *order* of the words drives the meaning of the sentence. Similarly, the order of the letters and the correspondence of those letters to letter sounds are critical for decoding and spelling. Sequencing is important in math as well.

One of the most important basic skills a child needs to obtain is mastering essential math facts. Memorizing the basic addition and multiplication facts is often very dependent upon learning information in a specific order. When a student is taught basic facts by rote memory (e.g., writing $4 + 8 = 12$ ten times each day until it is learned), the child remembers the specific statement (e.g., “4 plus 8 equals 12”), which is based on the recall of those words in that specific order. This is why children who learn that 4 plus 8 equals 12 may not know that 8 plus 4 also equals 12. Teachers should keep in mind that Successive processing is used to remember these statements, making this approach to teaching math facts good for children with good Successive processing ability.

When we teach students to recognize when Successive processing ability is needed to solve a problem, we are teaching students to use an important ability. This way of learning and the behaviors associated with Successive processing ability that are presented in this book (see the handout Successive Processing Explained, p. 61) will help students be more successful. We must teach children to be aware of this important ability and to use it effectively.

How to Teach Successive Processing Ability

The first step in teaching children about their own abilities is to explain what Successive processing ability is. In Figure 1 (which is included in the PASS poster on the CD), we provide a fast and

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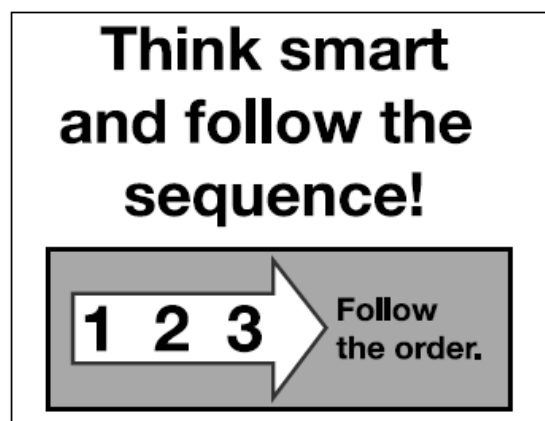


Figure 1. A graphic that helps students understand Successive processing.

simple message: “Think smart and follow the sequence!” We should begin by helping children realize that they have many different types of abilities and that Successive processing is one of them. During appropriate times during the day, remind students to closely attend to the sequence of information—when reading, presenting information in written text, examining the sequence of letters when doing spelling, solving math equations, and so forth. We need to teach children to approach *all* of their work with an understanding of how the information is sequenced. Throughout the day, the teacher should do the following:

1. Teach children that most information is presented in a specific sequence so that it makes sense.
2. Encourage children by asking, “Can you see the sequence of events here?” or “Did you see how all of this is organized into a sequence that must be followed?”
3. Remind the students to think of how information is sequenced in different content areas, such as reading, spelling, and arithmetic, as well as in sports, playing an instrument, driving a car, and so forth.
4. Teach children that the sequence of information is critical for success.
5. Remind students that seeing the sequence requires careful examination of the serial relationships among the parts.

Resources

- Pressley, M.P., & Woloshyn, V. (1995). *Cognitive strategy instruction that really improves children’s academic performance* (2nd ed.). Brookline, MA: Brookline Books.
- Scheid, K. (1993). *Helping students become strategic learners*. Brookline, MA: Brookline Books.

Thinking and Learning Strategies, con't

READING

POSSE: For comprehending text

- P** = Predict ideas (brainstorm)
- O** = Organize the ideas into a graphic organizer
- S** = Search for the structure of the text (compare and contrast, sequential, etc)
- S** = Summarize main ideas (on graphic organizer)
- E** = Evaluate your understanding (through talk or writing)

RAP (Schumaker, Nolan and Deschler, 1984)

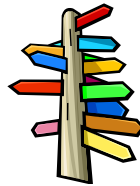
- R** = Read a paragraph
- A** = Ask a question
- P** = Put the main idea in your own words



MATH

SIGNS (Watanabe, 1991)

- S**urvey the question
- I**dentify key words and labels
- G**raphically draw the problem
- N**ote operation(s) needed
- S**olve and check problem



SLOBS: For borrowing (Reetz and Rasmussen, 1988)

- S** = Smaller, follow usual steps;
- L** = Larger; leap to subtraction;
- O** = Off, cross off number in next column
- B** = Borrow by taking one 10 and adding to the next column
- S** = Subtract



LAMPS: For regrouping (Reetz and Rasmussen, 1988)

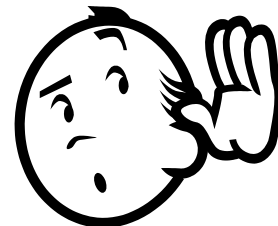
- L** = Line up the problem
- A** = Add the right columns
- M** = "More than 9?" if so, go to next step
- P** = Put the one's below the column
- S** = Send the 10s to the top of the next column



LISTENING

SLANT (Deschler and Schumaker SIMS, Kansas City)

- S** = Sit Up
- L** = Lean forward
- A** = Activate your thinking
- N** = Name key information
- T** = Track the talker



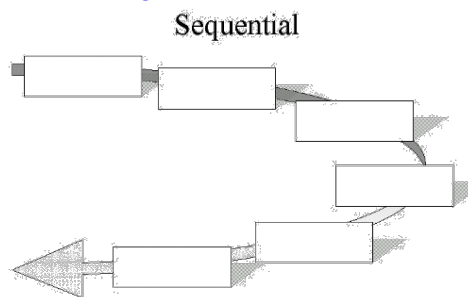
Model and Scaffold Non-Fiction Writing

Mapping Into Writing

- *Initially, you may be teaching students to map in order to help them comprehend text. However, once students have learned to develop concept and semantic maps, you can begin to show the how to apply mappings as a pre-writing strategy used to help them organize before writing. The following are suggestions for teaching students to use mapping to help them write essays, summaries, essay test questions, or research papers.*
1. Always model the strategy for the students first. Telling them how to map will not be as successful as showing them how to map. You may also demonstrate mapping into writing by writing one piece together as a class.
 2. After students have developed their maps, have them categorize their information. They may categorize by sequencing (first, second, third), time order (before, during, after), main ideas and details, or any other natural categories they develop.
 3. Students need to write an introduction which states the main idea or topic and leads the reader into the piece.
 4. Students need to then use the information from their maps as paragraphs for the body of their piece.
 5. After completing the body of the piece, students need to add a conclusion which summarizes the main points and wraps up the piece.
 6. Remind students that the piece should be proofread by themselves and someone else if possible, and that the final draft must follow the conventional rules for writing and spelling.

Transition Words for Sequence:

- First, second, third, and so forth. A, B, C, and so forth. Next, then, following this, at this time, now, at this point, afterward, subsequently, finally, consequently, previously, before this, simultaneously, concurrently, thus, therefore, hence, next, and then, soon.
- Some Cool Website for Teaching Writing in Text Structures
 - http://www.paragraphpunch.com/paragraph_punch_writing_prompts.php
 - <https://sites.google.com/a/g.coppellisd.com/expository-writing-guide/sequential>



Teaching Students About Simultaneous Processing

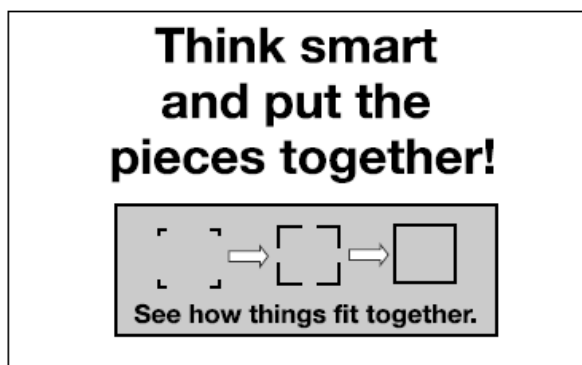
What Is Simultaneous Processing Ability?

The purpose of education is certainly to provide students knowledge and skills, but researchers have found that children also need to learn how to learn. To achieve that goal, we must teach students to see that little facts often go together to make something big. In other words, parts make a whole and seeing how the parts fit the BIG picture makes us better understand how information is organized. When we teach our students to see the way things are interrelated, we are teaching use of a method called *Cognitive Strategy Instruction* (Scheid, 1993), and this is an effective teaching method.

When reading, and especially when obtaining meaning from text, students must understand how the information that is provided fits into a coherent whole. This means that the words in each sentence need to be understood in relation to all the others. Similarly, the sentences in each paragraph must also be considered in relation to all the others. Comprehension of a paragraph demands seeing how the parts fit into the whole. Getting meaning out of a story requires understanding how all of the facts fit together. The same is true for writing. Students who are good at writing organize the information into a whole picture and then present the text according to the big picture. Seeing patterns is another way to see the whole. Students who see patterns when doing math will be better able to understand how mathematics works and how math concepts are applied, and they will even learn the basic facts more easily.

When we teach students to be aware of an ability such as Simultaneous processing, we are teaching them an important way they can be more successful. This way of learning and the behaviors associated with Simultaneous processing ability presented in this book (see the handout entitled *Simultaneous Processing Explained*, p. 59) will help students be more successful, but we must teach them to be aware of this important ability.

How to Teach Simultaneous Processing Ability



The first step in teaching children about their own abilities is to explain what Simultaneous processing ability is. In Figure 1 (which is included in the PASS poster on the CD), we provide a fast and simple message: "Think smart and put the pieces together!" We should begin by helping children realize that they have many different types of abilities and seeing the whole is an ability we call *Simultaneous processing*. During appropriate times during the day, remind children to see how the different parts fit the whole—the

Figure 1. A graphic that helps students understand Simultaneous processing.

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Helping Children Learn: Intervention Handouts for Use in School and at Home, Second Edition, by Jack A. Naglieri & Eric B. Pickering
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big picture—when reading, learning vocabulary words that are related in some way, seeing similarities in letter combinations when spelling, writing paragraphs that are tied together in a larger story, seeing patterns in math, and so forth. We need to teach children to approach *all* of their work with an understanding of how the information is organized into a whole. Throughout the day, the teacher should

1. Teach children that most information is related to other information, so try to see the pattern.
2. Encourage children by asking, “Can you see the big picture here?” or “Did you see how all of this is related?”
3. Remind students to think of how information is related across topics and content.
4. Teach children that information in all areas of the curriculum is interconnected.
5. Remind students that seeing the whole requires thoughtful examination of the parts, and even though that may take a little time, it will help them understand more completely.

Resources

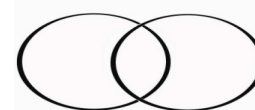
Pressley, M.P., & Woloshyn, V. (1995). *Cognitive strategy instruction that really improves children's academic performance* (2nd ed.). Brookline, MA: Brookline Books.

Scheid, K. (1993). *Helping students become strategic learners*. Brookline, MA: Brookline Books.

CHEW CHOICE: Graphic Organizers

Teachers today know that graphic organizers are powerful learning tools to use in classroom instruction. (In this book, we define graphic organizers as any visual diagram such as cluster maps, webbing, KWL, Venn Diagrams, Brainstorming Charts, etc.) Some of the benefits of using graphic organizers include the following:

- ✓ Activates students' thinking
- ✓ Helps students retrieve prior knowledge
- ✓ Links new information with the old (This is how the brain learns best!)
- ✓ Assists students in retaining and transferring knowledge
- ✓ Allows students to visualize the learning process



Graphic organizers are excellent learning tools to use for all learners if they are used in meaningful and engaging ways. Students will quickly tire of them if they become the next dittoed worksheet, or if students are not taught to see the relevance in using graphic representations. For example, students need to know that people in corporate boardrooms in America are using mind maps and brainstorm maps to plan and organize their thinking. (Bet they don't fill them out as dittos, either!) If you are doing a KWL with your students, do they know that this is modeling what good readers do before, during, and after learning? Graphic organizers should be living, breathing documents that are created by the students for the students needs as learners.

Below are some suggestions for using graphic organizers in ways that increase students' engagement and understanding.

1. Make the graphic organizers BIG and ALIVE. Use chart paper and markers. Have students work in groups of three to brainstorm ideas. Have them post their graphic organizers around the room for other students to see. Allow groups to walk around the room and look at other group's graphic organizers. Have them bring along a clipboard and appoint a recorder so they can write any information that they didn't include on their map. Then when they return back to their own maps, they can add the information they learned from their peers.
2. Don't run off organizers as dittos! Instead make an overhead model of a graphic organizer and model on the overhead how this structure helps you to organize your thinking. Allow students to create their own visual map as long as it meets the criteria you are asking for in the lesson. Students who want to use your framework may do so. You can also have some copies of your map for students who really struggle with developing their own schema.
3. Use graphic organizers to chart and show growth in the learning process. At the end of a marking period, put up chart paper with a circle in the middle that states, "What we learned in (subject area) this marking period." As students share things they have learned, write the information on the chart and put their initials under their comment. (Students love seeing their names on the charts.) Create a new map each marking period. Take previous quarters' maps out and add the new ones so students can see how much they grown as learners. This is especially powerful for struggling learners because they don't visualize themselves as learners.

Improving Student Thinking: Thinking Routines

Visible Thinking Routines

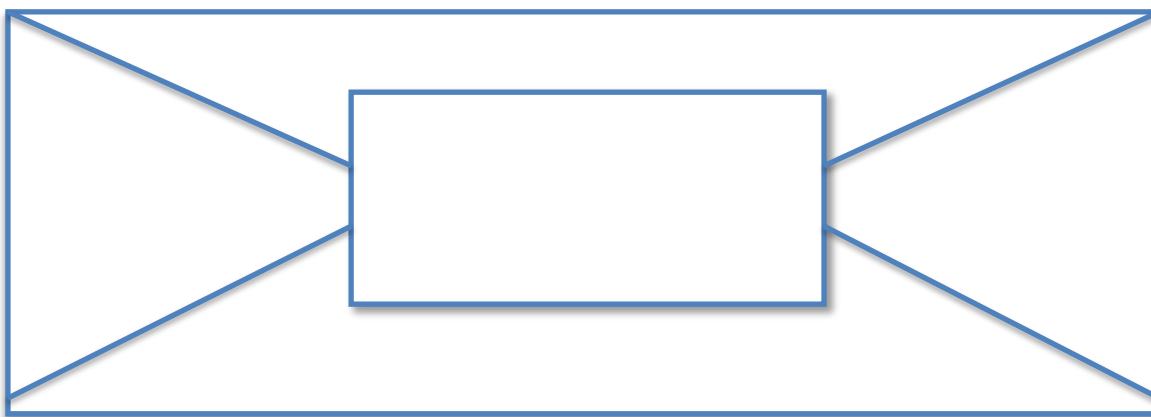
Visible Thinking routines and strategies will be used to strengthen students' thinking. The Visible Thinking routines will provide students with the skills they need to become more thoughtful learners. Students will have opportunities to express their ideas and reflect upon them.

Placemat Technique

The Placemat Technique can be used with a wide variety of questions and prompts or for a wide range of learning goals, e.g.

- To encourage students to share ideas and reach a consensus about a topic/idea
- To activate the prior knowledge of a topic among students
- To help students share problem-solving techniques
- To take group notes during a video or oral presentation
- To summarise learning after the class and/or to be used as an opening review for the subsequent lesson

Groups of four students are ideal for the placemat technique but it can also work with 3 – 6 students by amending the template.



Tips

- Discuss record and post a labelled diagram of the Placemat on the board so that students always have a visual reference of the organisation and required actions.
- Consider the composition of the small groups and vary the membership according to the students' learning styles and interaction, subject-matter expertise, etc. Some groups will require more teacher support in carrying out the task in other groups.
- Use the placemats as a record of collective student thinking and post the ideas for other groups to see

PC 1

A	B	C	D
X X	O X	X O	O O

A	B	C	D	A	B	C	D
A	B	C	D	A	B	C	D
A	B	C	D	A	B	C	D
A	B	C	D	A	B	C	D
A	B	C	D	A	B	C	D
A	B	C	D	A	B	C	D
A	B	C	D	A	B	C	D
A	B	C	D	A	B	C	D

PC 2

A	B	C	D
O O	X X	O X	X O

A	B	C	D	A	B	C	D
D	A	B	C	D	A	B	C
C	D	A	B	C	D	A	B
B	C	D	A	B	C	D	A
A	B	C	D	A	B	C	D
D	A	B	C	D	A	B	C
C	D	A	B	C	D	A	B
B	C	D	A	B	C	D	A

From: Naglieri, J. A. & Pickering, E. B. (2003). *Helping Children Learn: Intervention Handouts for Use at School and Home*. Baltimore, MD: Brookes Publishing.

PASS Rating Scale (PRS)				
Child's name: _____		Person completing the form: _____		
Test date: _____		Relationship to the child: _____		
<p><i>Directions:</i> This scale contains descriptions of behaviors that can help determine how well the child can use important cognitive processes. To use this scale, rate the questions on the basis of your knowledge of the child. Read each statement and put a checkmark under the word that tells how often you observed the behavior. If you want to change your answer, cross out your first response and fill in your new choice. Answer every question.</p>				
During the past 2 months, how often did the child	Always	Usually	Sometimes	Never
1. Work in a well-organized and neat way				
2. Use strategies and plans when doing work				
3. Evaluate his or her own behavior				
4. Think before acting				
5. Have many ideas about how to do things				
6. Show self-control				
7. Perform well on spatial activities (e.g., maps, diagrams)				
8. Understand how things go together				
9. See the big picture				
10. Understand complex verbal instructions				
11. Work well with patterns				
12. Like to use visual materials				
13. Focus well on one thing				
14. Work without being distracted by people or noises				
15. Pay close attention				
16. Listen to instructions without being distracted				
17. Work well for a long time				
18. Work well in a noisy environment				
19. Work well with information in sequence				
20. Do well with things presented step by step				
21. Remember the order of information				
22. Understand directions presented in sequence				
23. Do well working with sounds in order				
24. Closely follow directions presented in order				
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Figure 2.11. The PASS Rating Scale.




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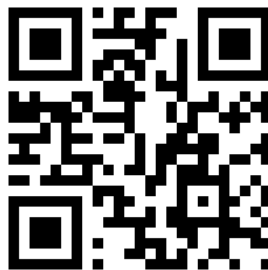
Topics:

-  **Self-Regulation/Executive Functioning: Mindsets + Skill Sets = Results!**
-  **Differentiating Instruction and the Learning Brain**
-  **Transformative Teaching: Changing Today's Classrooms Culturally, Emotionally and Academically**
-  **Co-Teaching/Inclusion**

Other popular topics includes:

◆ Active Engagement in the Classroom ◆ Close Reading Strategies for Secondary Learners ◆ Reading and Writing in the Content Areas ◆ **Inspiring Learners Institutes**: A series of days co-created with you around meeting all students need Culturally, Academically and Social-Emotionally

Kathleen Kryza is available for keynotes, one day or series workshops, coaching/consulting. For more information or to schedule Kathleen to come to your school or district please call, email or visit www.kathleenkryza.com and complete the contact form or simply scan the QR code below to go directly to the website where you can sign up for Kathleen's monthly newsletter, buy books , browse workshops, download [FREE resources](#), and contact her.



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