

Resource A

Brain-Compatible Lesson Design

By now you should have a variety of brain-compatible activities incorporating the twenty strategies written on the Reflection pages at the end of each chapter. I am sure that you are anxious to try these out on your students, and, if the 400-plus e-mails and text messages that I have received from teachers and administrators are any indication, these activities will increase the academic achievement and positive climate in your classroom.

You probably have figured out that some of the activities in this book can be implemented just as they are, while others may need to be adapted to the age and ability level of your own students. You probably also realize that these 200 activities are only a small sample of the possibilities in store for you and your students when you begin to teach in brain-compatible ways. However, let me offer a framework that will not only assist you in developing complete lessons, but will also gain and maintain the attention of your students throughout your lessons. That framework is the English language arts lesson plan found at the end of this section. Each of the major parts of this plan is explained in the paragraphs which follow. Is it absolutely essential that you write or type out the answers to the questions on the form when you are planning a lesson? No! Is it essential that you ask and appropriately answer the five questions on the lesson plan form each time you plan a lesson to ensure that the lesson is brain compatible? Absolutely!

SECTION 1: LESSON OBJECTIVE ■

What do you want students to know and be able to do?

As a trainer for Stephen Covey's *7 Habits of Highly Effective People*, I know that it is crucial that people practice Habit 2: Begin with the End in Mind. That is also the case with your lessons. By the time you complete a lesson, what knowledge, skills, strategies, or behaviors should students possess to indicate successful completion of the standard or objective? By the way, please tell the students what they are! Students should not have

to guess what your expectations are when it comes to a lesson. They should be told at the beginning of a lesson what they should be able to do by the end. This gives students a purpose for learning what it is you need them to know. That purpose can be in the form of a standard, objective, or an essential question, but it needs to be stated. We all know that when students don't see the purpose in your lesson, they will ask this question: *Why do we have to learn this?*

I have had teachers tell me that they would love to incorporate more of the brain-compatible strategies into their daily lessons, but they feel that they simply cannot. Why? It would take too much time, and they have too much content to cover. A famous educator named Madeline Hunter said it better than I could. She stated that *If all you are doing is covering content, then get a shovel and cover it with dirt, because it is dead to memory!* I am not unsympathetic to the large number of standards and/or objectives that teachers in the United States are being asked to address. In fact, while teaching in Singapore, I noticed that the math textbooks there are about one-third the size of U.S. students', and yet Singapore students outscore us on measures of academic achievement. We seem to be teaching horizontally, while Singaporean teachers are teaching vertically. Could it be that *less is more*? The good news is that it seems as if some curriculum frameworks, such as the Common Core State Standards, are attempting to narrow the focus and ensure more continuity from one grade level to the next. Continue to examine your curriculum for those concepts that can be taught together, or chunked, so that students see the connectedness in the content.

In our opening scenarios, Mrs. Davis let students know what would be expected of them by asking an essential question: *What is the main idea of this story, and what are some details in the story that let you know that this is the main idea?*

■ SECTION 2: ASSESSMENT

How will you know students have mastered essential learning?

Now that you know what you want students to know and be able to do, how will you know when they can do it? Assessment should not be a well-kept secret. Will my assessment be more traditional, such as a paper-and-pencil test where students select the correct response? Will I be asking them to respond in writing to short-answer or essay questions at various cognitive levels of thinking? Or will my assessment be more authentic, wherein students are creating a product or performance to demonstrate understanding? When I was a student in school, we spent our time trying to guess what the teacher was going to put on the test. If we guessed correctly, we made an A. However, we may have guessed incorrectly, and failed, even though we studied. We just studied the wrong thing!

In our sample lesson, students will work in groups to write a text message which gives the main idea, or gist, of the story they will be reading. They will also participate in a whole-class discussion where they will share which specific details in the story led them to the main idea.

SECTION 3: WAYS TO GAIN AND MAINTAIN ATTENTION ■

How will you gain and maintain students' attention? (Consider need, novelty, meaning, and emotion.)

I have good news and bad news! The bad news is that there is so much stimuli in today's environment that the human brain cannot pay attention to everything at once. Therefore, people can be very selective about what they choose to pay attention to. If a teacher's lesson is not worthy of attention, then students' attention is going elsewhere. When the lesson is boring, students are conversing with their peers, peering out the window, text messaging while holding the phone under their desktop, paying attention to who is going down the hall, or simply daydreaming. Students can even maintain eye contact with you and not pay a bit of attention to your lesson.

Another bit of bad news! There is a structure in the brain called the hippocampus that helps to determine which parts of what a person learns will end up in long-term memory. If your lesson is not deemed important, it stands a slim to no chance of getting past the hippocampus. In fact, the hippocampus will hit the delete key at night and your lesson will figuratively end up in the trash. How can you tell if your lesson got deleted? When students come back to class twenty-four hours later, it is as if they were not present when you were teaching the initial lesson. Has that ever happened to you? It certainly has to me!

The good news is if you want to grab students' attention, hold it throughout your lesson, and keep your lesson out of the trash, there are four ways to do it. They are *need*, *novelty*, *meaning*, and *emotion*.

NEED ■

Have you ever learned or remembered something simply because you needed to know it? When I was working on my master's degree in remedial reading, I was involved in an internship where my very grade depended on my ability to increase the reading scores of a high school student named Kevin. Kevin was fifteen years old and waiting until he turned sixteen so that he could drop out of school. He was reading approximately on a third-grade level and could not begin to read his content-area textbooks. I kept thinking about how to get through to him so that he saw the need to become a better reader. Then it dawned on me!

In a few months, he would be able to drive and would need to know how to read well enough to navigate his way around the city and pass the driver's test. I went to the motor vehicles bureau and got a copy of the Michigan driver's manual. It is from this manual that I taught Kevin to read. He learned!

In our opening story, Mrs. Davis tells students of the need to know how to take a great deal of information and consolidate it into a central idea. Many careers will require that ability.

Sometimes *need* will not work with students. After all, you may know that they need specific knowledge or a certain skill, but they do not perceive the same need. In fact, just telling them that they will need to know the information for a standardized or teacher-made test is not enough to inspire most students. The good news is that you have three other ways to gain their attention. The second one is *novelty*.

■ NOVELTY

Have you ever noticed that the brain pays attention to things that are new or different in the environment? Things to which we are accustomed become mundane and require little special attention. I pay little attention to the instructions at the beginning of a flight since I have heard those directions over and over again. However, Delta airlines just developed a completely new video that is unlike any of the past ones. It is full of humor and completely caught my attention! I now know that there is actually more than one video, since I have seen several different versions. I have paid attention to each one because it is new and different.

If students can expect that every day in your language arts class the teaching activities, such as the lectures or worksheets, will be the same, they are soon paying very little attention to what you are asking them to do. As the content changes, so should the use of the strategies. Any strategy used the same way and too often becomes mundane.

You may be saying, "*But there are only twenty strategies on the entire list. Where is the novelty in that?*" Well, think about it! Every one of those twenty strategies has inherent in them endless possibilities for novelty. Think of all the different stories you can tell, the music you can incorporate, or even the role plays or projects in which you can engage your students. The possibilities are endless!

In the sample lesson, Mrs. Davis uses a number of the twenty strategies at some point during the class to deliver content in new and different ways.

■ MEANING

Students have often been heard asking this question: *Why do we have to learn this?* This question indicates that students see no relevance in what is

being taught and how it applies to their personal lives. For content to be meaningful, it needs to be connected in some way to students' lives in the real world. After all, the true purpose of the brain is survival in that real world. Give students meaningful reasons to read, write, speak, and listen and those communication skills become real. For example, when one teacher I observed was teaching students about the impact of propaganda, her students did not grasp the concept until she brought in a picture of Rihanna, a popular singer, who was advertising eye makeup. The cosmetics company wanted young women to believe that because Rihanna was wearing their makeup, it was the best on the market. That is propaganda! All of a sudden, the term made sense.

Drawing personal definitions of vocabulary words and working together to plan the prosecution of a major character makes the content much more meaningful.

EMOTION ■

Of the four ways to gain the brain's attention, emotion is probably the most powerful. Why? Emotion places information in one of the strongest memory systems in the brain: reflexive memory. If something that happens in the world has an emotional impact, you will not soon forget where you were when it occurred. For example, no U.S. citizen who is old enough will forget exactly where he or she was on September 11, 2001. Need I say more?

Yet teachers should not engage students in negative emotional experiences that are not good for learning. While students will never forget the experience of being in a teacher's classroom that they did not like, they will not remember the content acquired during the instruction. Their brains were simply in survival mode!

My definition of an emotional teacher is one who teaches with passion and enthusiasm and gets students excited about learning. My daughter Jessica had a sixth-grade language arts teacher who loved Edgar Allan Poe. Soon Jess was reading everything Poe wrote because Mrs. Allen was emotionally connected to Poe's work. In fact, it has been said that the difference between an ordinary teacher and an extraordinary teacher is the moment at which passion enters the picture. How can we get students excited about great literature if we are not excited ourselves? I have told my husband Tyrone that the day I teach classes to adults and children with no passion and enthusiasm will be the final day I will teach. In the scenario in Mrs. Davis's class, students get emotionally connected to the novel as they plan evidence for the prosecuting or defense attorneys who will be trying the case during the role play.

Please do not feel that you have to use all four ways—*need*, *novelty*, *meaning*, and *emotion*—to gain and maintain the attention of your students. If you can use one effectively, it may make for a memorable lesson.

■ SECTION 4: CONTENT CHUNKS

How will you divide and teach the content to engage students' brains?

Join me in an activity that will help to prove that the brain thinks in connections. Try this with students or even with members of your family. Ask them to spell the word *most* three times (*m-o-s-t*, *m-o-s-t*, *m-o-s-t*). Then quickly ask them, "What do you put in a toaster?" Nine times out of ten, the answer given will be *toast* when the correct answer is *bread*. The brain connected or associated the word *most* with the rhyming word *toast*.

When you think about connecting content together, remember that even the adult brain can only hold between five and nine, or an average of seven, isolated facts in short-term memory simultaneously. This is why so much in life comes in a series of sevens. For example, there are seven days in a week, numbers in a phone number, notes on the scale, colors in the rainbow, seas, continents, habits of highly effective people, original multiple intelligences, and even dwarfs.

If we are expected to hold more than seven items, then the content needs to be chunked, or connected. This is why a social security number, a telephone number, or a credit card number is divided into chunks: to make it easier to remember. Here's a language arts analogy. Beginning readers often pronounce whole words by looking at each letter in the word and slowly naming each letter. Then, as they become more fluent, those letters become a chunk or a word recognized by sight. Then words turn into chunks called phrases, phrases into chunks called sentences, and sentences into chunks called paragraphs until finally students are reading accurately and fluently and can then concentrate on comprehending what they are reading.

When teaching vocabulary, try to think of ways to chunk, or connect, words together. For example, when you teach about a kitchen cabinet, talk about the president's cabinet as well. When you teach a word, connect that word's synonyms and antonyms to it simultaneously.

Remember to include at least one activity in each chunk that you teach. This is where the strategies enter. It is the engaging activity that gives students' brains time and energy for processing the chunk! After all, how do you eat an elephant? *One bite at a time*. How do you digest an elephant? *You must chew him up*. The *bites* are lessons' chunks. The activities represent how your students will *chew up* those chunks.

Our sample lesson could be divided into the following three chunks: (1) review of previously taught vocabulary words by drawing their definitions, (2) identifying the main idea and related details in a story by discussing the text, and (3) preparing to role play a court case within the context of literature

■ SECTION 5: BRAIN-COMPATIBLE STRATEGIES

Which will you use to deliver content?

All twenty of the brain-compatible strategies are listed at the bottom of the lesson plan. In this way, you will not have to remember them because

they will be listed for ready reference. Even I can't always remember the twenty strategies when I need to do so, and I wrote the book! As you are determining what activities you will include in each chunk of your lesson, you should be incorporating one or more of the twenty brain-compatible strategies. If you get to the end of your plan and you cannot check off any of the strategies (possibly because your entire lesson consisted of long lectures or worksheets, neither of which is brain compatible), go back and plan your lesson again! It is not brain compatible and will not meet the needs of the majority of your students. Much of it may not even be recalled after a twenty-four-hour period.

I have often been asked this question: *How many strategies should I incorporate into one lesson, or one chunk?* There is no magic number. Using too many strategies at one time can be just as detrimental as using too few. A rule of thumb is as follows: make sure that at some point during the lesson you have incorporated at least one visual, one auditory, one tactile, and one kinesthetic strategy, since you will have students with all four modality preferences in your classroom. That doesn't mean one strategy of each modality per chunk, but one strategy of each modality per objective or standard.

Keep this in mind. If you use one strategy—say, graphic organizers—to teach a lesson and the entire class grasps the concept, then by all means, move on to the next concept. You taught it and they got it! However, if you use one strategy to teach a lesson and part of the class understands the concept and the other part does not, use a different strategy from a different modality for the re-teaching. This is how you can best differentiate instruction. Simply doing the same thing over and over in the same way and louder has never worked! Refer to Figure 0.1 on page 18 for a correlation of the twenty strategies to the multiple intelligences and the modalities.

By the time the lesson in our best scenario was completed, students had experienced the following eight brain-compatible strategies: music, visuals, drawing, simile, discussion, cooperative learning, manipulatives, and role play.

SUMMARY ■

Well, we've come to the end of the second edition of another book. My hope is that I have accomplished what I set out to do, which was as follows:

1. introduce you to twenty strategies for teaching English language arts that take advantage of ways in which the brain learns best,
2. supply over 200 research rationales from experts in the field as to why these strategies work better than others,
3. provide more than 200 activities that show how to incorporate the twenty strategies into a K–12 reading and language arts classroom,
4. allow time and space at the end of each chapter for you to reflect on the application of the strategies as they apply directly to your specific objectives and standards, and, finally,
5. ask and answer the five questions that every teacher ought to be asking when planning and teaching a brain-compatible English language arts lesson.

BRAIN-COMPATIBLE ENGLISH LANGUAGE ARTS LESSON PLAN

Lesson Objective(s): *What do you want students to know and be able to do?*

Assessment (Traditional/Authentic): *How will you know students have mastered essential learning?*

Ways to Gain/Maintain Attention (Primacy): *How will you gain and maintain students' attention? Consider need, novelty, meaning, or emotion.*

Content Chunks: *How will you divide and teach the content to engage students' brains?*

Lesson Segment 1:

Activities:

Lesson Segment 2:

Activities:

Lesson Segment 3:

Activities:

Brain-Compatible Strategies: *Which will you use to deliver content?*

- | | |
|---|---|
| <input type="checkbox"/> Brainstorming/Discussion
<input type="checkbox"/> Drawing/Artwork
<input type="checkbox"/> Field Trips
<input type="checkbox"/> Games
<input type="checkbox"/> Graphic Organizers/Semantic Maps/Word Webs
<input type="checkbox"/> Humor
<input type="checkbox"/> Manipulatives/Experiments Labs/Models
<input type="checkbox"/> Metaphors/Analogies/Similes
<input type="checkbox"/> Mnemonic Devices
<input type="checkbox"/> Movement
<input type="checkbox"/> Music/Rhythm/Rhyme/Rap | <input type="checkbox"/> Project/Problem-based Instruction
<input type="checkbox"/> Reciprocal Teaching/Cooperative Learning
<input type="checkbox"/> Role Plays/Drama Pantomimes/Charades
<input type="checkbox"/> Storytelling
<input type="checkbox"/> Technology
<input type="checkbox"/> Visualization/Guided Imagery
<input type="checkbox"/> Visuals
<input type="checkbox"/> Work Study/Apprenticeships
<input type="checkbox"/> Writing/Journals |
|---|---|