A Teacher’s Perspective

Steve Gerald finished taking attendance and asked his third graders to take out their science journals. He was anxious to continue the lively discussion that had begun during yesterday’s lesson on animal adaptations. He threw out a couple of questions with little response from students. “Guys, we just talked about this yesterday. What’s going on? Is everyone still asleep this morning?” he asked in frustration. “Mr. Gerald, can we watch that animal video you showed yesterday?” asked LaTasha. “It was so cool!” Of course, the rest of the students began chiming in their support. That was yesterday’s lesson! Why do they want to repeat what they’ve already done? Mr. Gerald was thinking about the great lesson he had planned for today . . . if only his students would get into it.

A Student’s Perspective

LaTasha skipped into class. She couldn’t wait to learn more about what animals do to survive. Yesterday they had seen the coolest video clip showing all the amazing things animals do. She hadn’t wanted that lesson to end. Today Mr. Gerald asked them to get their notebooks and started asking
some questions. LaTasha felt lost . . . where was he going with this? She thought maybe if they watched the video again it would help her answer his questions, but when she suggested this, Mr. Gerald just seemed to get frustrated. LaTasha just felt confused.

**WHAT IS AN ANTICIPATORY SET?**

Mr. Gerald can’t wait to jump back in to his lesson, but his students aren’t jumping with him. Are they just sleepy like Mr. Gerald thinks, or is there more to it? What was different about the previous day’s lesson that led to such an engaging discussion?

The difference is simple but significant: the previous day the students were mentally prepared to absorb and process new content. The short video clip Mr. Gerald showed provided an anticipatory set, drawing the students in to the lesson and mentally preparing them for new learning. It allowed them to access their prior knowledge about the topic while also piquing their curiosity. They began constructing questions that they would seek to answer during the lesson. In short, within the first five to seven minutes of class, the students were hungry for what Mr. Gerald would teach them.

The anticipatory set only takes five to 10 minutes, but it is a crucial part of the lesson cycle because it serves as the “hook.” It creates anticipation for the learning and primes the brain for taking in and processing information. A well-constructed anticipatory set creates a mental advanced organizer in the students’ minds that gives them a place to file and organize the new information as it is taught.

Using a brief video clip, like Mr. Gerald did, is just one way to put the students’ brains in a receptive state. This chapter will explore eight strategies for mentally engaging students in the content to be learned.

**WHY IT WORKS**

So it’s a standard part of a classic lesson plan. But does it work? If an effort has been made to add an anticipatory set to a lesson, will students actually learn more? The research says yes. Although it has been examined under a few different names (anticipatory set, the emotional “hook,” set of induction, advance organizers), a number of studies over the past several decades support its use in daily lessons.

Research is now confirming that, for lessons to produce desired learning results, students must initially feel passion and emotion about what
they are learning. If the information perceived fails to elicit a positive emotional response, it will fail to be perceived as meaningful and will therefore have little chance of being selected into long-term memory banks (Wilson, 2015). This information is what stands out so we can focus upon it, organize it, and remember it. Study after study confirms that the more emotionality evoked, the easier it is to remember. A pioneering leader in defining emotional circuitry, Joseph LeDoux, notes, “Emotions, in short, amplify memory” (1998).

So what evokes emotionality? When anything is perceived as unusual, novel, accesses prior knowledge, and generates curiosity, nor-epinephrine is released to wake up the emotional center of the brain. This reaction allows for higher levels of mental awareness and arousal, attention, and focus, thereby creating intrinsic motivation and curiosity to ensure deeper understanding of content. Why? Exciting, interesting, and thought-provoking situations and events are better remembered than boring or neutral ones (Sprenger, 2005). This heightened state of hungering for knowledge, when students are magnetized by a new idea or a new situation and are compelled to explore more deeply, is why LaTasha was feeling so energetic, motivated, and curious during Mr. Gerald’s first lesson and was so disappointed when the next day’s lesson began so humdrum.

If emotions organize brain activity and drive attention and perception, then our daily lessons should include anticipatory sets that unlock our students’ motivation, curiosity, and attention. By designing lessons that channel this energy toward the content being taught, students’ everyday experiences in school will become more memorable and these concepts will move into long-term memory storage.

In the end, anticipatory sets evoke emotions that strongly influence our attention, help us make meaning of our experiences, and imprint strong memories in our brain (Wolfe, 2010).

**STRATEGIES FOR ANTICIPATORY SETS**

**INSTRUCTIONAL VIDEO CLIPS**

On Day 1, Mr. Gerald knew using an instructional video clip was a powerful tool for meaningful learning because it piqued interest and stimulated critical-thinking skills through active opportunities for students to generate their own questions. This is why LaTasha was skipping into his class the following day. She was excitedly awaiting the return of the video clip.
When instructional video clips are used as anticipatory sets, students make new connections between curriculum topics, and discover links between these topics and the world outside the classroom. Video clips can be used in a variety of meaningful ways: to illustrate complex concepts, show experiments that cannot be done in class, help hesitant learners become more task-focused, engage students in problem-solving and investigative activities, and provide shared learning experiences for all students.

On Day 2 of Mr. Gerald’s lesson, he could have enhanced his lesson by implementing another video clip and attaching a specific learning task that connected to the essential information he wanted them to gain as part of his science objective for the lesson. This would give students a very specific purpose for watching and listening, and help springboard the lesson into deeper and richer discussions and processes. For example, if Mr. Gerald used the science standard that asked students to describe animal adaptations, then students could watch the video clip at the beginning of his lesson and complete a learning task that asked them to determine and describe one or more of the animal adaptations seen. Then after viewing, students could participate in productive academic discussions about the information found.

The Internet is replete with resources that teachers can use to find high-quality instructional video clips on virtually any topic. Listed below are a few that teachers have found to be especially helpful:

- www.khanacademy.org
- Disney Educational Productions: http://dep.disney.go.com
- teachertube.com
- http://www.watchknowlearn.org
- www.teachingchannel.org
- www.schoologytube.com

Classroom Close-Up: Video Clips

After designing and constructing model roller coasters, I wanted my Gifted and Talented students to use advertising techniques effectively to promote their structures. To engage them in this part of the lesson, I used video clips of a variety of commercials. Before showing them each commercial, I asked them to think about what technique was being used to capture their attention and make them want to buy or use the product or service advertised. I showed each commercial twice: the first time just to give them the gist of the message, and the second time so they could truly analyze the technique being used and capture their thinking on a sticky note. After the second viewing, students discussed the technique and evidence from the commercial in small groups. These discussions provided the perfect springboard for my lesson on persuasion and created a catalyst for students to think about the most effective technique for their own advertisements.

—Tara Gordon, middle-school Gifted and Talented teacher, Tulsa, OK
Instructional Video Clips

**Preparation:** Choosing and viewing the video clip ahead of time is critical to ensure it correlates concisely with the standards, goals, and objectives for the topic being studied. A meaningful question/prompt should be developed ahead of time, as well, so students have something meaningful to attend to as they view the video clip.

**Time Needed:** 3–4 minutes

**Grouping:** Individuals, partners

**Procedures for Students:**

1. Listen to and watch the video clip.
2. Using today’s “Purpose for Watching” prompt/question, find evidence in the video to answer.
3. Write (draw, discuss) answers using the provided graphic organizer.
4. Share your findings with a learning partner.

**Suggested Adaptations and Applications to Other Content Areas:**

- Very young students can participate in discussion pairs to successfully complete the learning tasks associated with the viewing of video clips.
- If the video clip is too long for one lesson, chunk it so students receive 2–3 minutes of it per lesson.
- If there is limited technology, set up a video station (with an iPad, laptop, etc.) and allow students to rotate through as they listen and watch. The same purpose for watching could be utilized, but the format for gaining the information will “look” different.
- If needed, show the video clip twice to ensure students have adequate time to analyze and determine answers to prompts/questions.
- Suggested uses in English language arts: commercials for elements of persuasion; clips from movies or TV shows for literary elements
- Suggested uses in mathematics: Khan Academy videos to provide students with the “big picture” before the lesson begins; YouTube videos to illustrate real-world applications of the skill to be learned; relevant clips from the TV show *Numbers*
- Suggested uses in science: videos to demonstrate scientific processes and real-world applications; relevant clips from the TV show *House*
• Suggested uses in social studies: clips from historical narratives on the history channel to make the content come to life for the students; television news clips of current events to show real-world connections to content

• Suggested uses in physical education/music/art: videos of professionals demonstrating the skill and/or intended outcome of the lesson

VISUAL REPRESENTATIONS

To activate prior knowledge and get his students thinking critically about yesterday’s animal adaptations lesson, Mr. Gerald could have begun Day 2’s lesson by showing a visual representation demonstrating the goal he aspired to accomplish. Strategic use of visual representations in the classroom, including photos, symbols, sketches, pictures, and others, helps engage students who have grown up in a media-rich environment where visual representations are readily available. With their heavy use of the Internet, they are accustomed to accessing information in both textual and visual forms. Teaching with visual representations will help develop students’ visual literacy skills, which contributes to their overall critical-thinking skills and lifelong learning.

Photos are one type of visual representation that Mr. Gerald could have used to enhance his lesson in a variety of ways. They could engage students in his class who didn’t always respond to written materials. Photos would have created a direct, sensory connection between his students and the science lesson that could result in heightened levels of interest and attention. Teaching with photos would also build visual literacy skills in students.

Mr. Gerald’s third graders could have analyzed a photo (see page 7) to determine the bird’s adaptations and then explained how they are drawing those conclusions (prior knowledge, what has been learned thus far in Mr. Gerald’s class, making connections to something in their real world, etc.). This creates an ideal forum for encouraging students to develop their own questions and to learn strategies for answering those questions.

Online resources for finding visual representations:

• http://www.digitalhistory.uh.edu/references/images.cfm
• http://memory.loc.gov/ammem/index.html
• http://guides.library.jhu.edu/images
Visual Representations

Preparation: Choosing and viewing the visual representation ahead of time is critical to ensure it correlates concisely with the standards, goals, and objectives for the topic being studied. A meaningful question/prompt should be developed ahead of time, as well, so students have something meaningful to attend to as they analyze and interpret.

Time Needed: 3–4 minutes

Grouping: Individuals, partners, small groups of 3 or 4

Procedures for Students:

1. Analyze the visual representation and determine its connection to today’s lesson.
2. Write (draw, discuss) three observations you can make based on what you are viewing.
3. When time is called, participate in a Stand Up, Hand Up, Pair Up (see Chapter 5) to discuss your findings with others.
4. Be seated after sharing with three partners.

(Continued)
COMICS AND CARTOONS

Another option for Mr. Gerald to kick off this lesson is to use a comic or cartoon to get students thinking critically about animal adaptations.

Comics and cartoons create effective anticipatory sets for two reasons. First, they are typically either humorous or thought-provoking, both of which evoke emotion, causing the brain to produce endorphins. Second, because they must be interpreted, they require critical thinking to unlock their meaning.

Comics and cartoons are quick and appealing because they include more visual input and less text. They provide picture support for reluctant readers and English language learners, giving all students access to the thinking.

Mr. Gerald has found a cartoon centered on how animals adapt for survival (see page 9). He projected the cartoon using the document camera and asked students to write a brief response to the following question: “Based on this cartoon, what do you think we will be learning about today?” He asked students to Stand Up, Hand Up, Pair Up (see Chapter 5) and compare their responses. He then listened in and used their conversations to generate the learning objective for the lesson.
Another way that Mr. Gerald could open his lesson using comics and cartoons is to find three cartoons about adaptations, and then make enough copies so that each student can have their own copy of one of the cartoons. Each student would then find three or four other students who have the same cartoon and discuss what the cartoonist was trying to communicate through it. Next, students form groups of three with others who have a different cartoon. They explain their cartoons to each other and look for similarities and differences. Within a few minutes, all the students in Mr. Gerald’s class would be discussing animal adaptations and their minds are buzzing with ideas and questions. This would mentally prime them for Mr. Gerald’s lesson.

**Comics and Cartoons**

**Preparation:** Find three comics or cartoons about the topic of study and print enough copies so that each student has their own copy of one of the cartoons.

**Time Needed:** 10 minutes

**Grouping:** Groups of 3

(Continued)
Another way Mr. Gerald could have grabbed his students’ attention and gotten them thinking about the lesson was to open with a song. According to Chris Boyd and Nusa Maal in their book *Soundtracks for Learning: Using Music in the Classroom* (2008), songs provide opportunities to motivate students and get their attention because “students pay more attention to lessons that are connected with something relevant to their lives and music provides an excellent bridge.”

When choosing a song, www.feelgoodsongs.info allows you to search for songs based on ideas, activities, messages, themes, and values. A good resource for printable song lyrics is www.metrolyrics.com. YouTube serves as a great source for all kinds of songs, including ones that...
have been written and performed by teachers and students about specific content. For professionally produced songs that contain content-rich lyrics that include domain-specific academic vocabulary, visit www.teachbysong.com.

Mr. Gerald found a few songs on YouTube written specifically about animal adaptations, but he really wanted to get his students thinking on a different level. He also considered the fact that a more contemporary song that they enjoyed listening to would spark their interest and engage them. Therefore, Mr. Gerald chose to open his class by playing the chorus to *Survivor*, performed by Destiny’s Child (Beyoncé, Dent, & Knowles, 2001). He played it twice, asking students to think about what it might have to do with what they were going to be learning about that day. Every student in the class was sitting up, straining to make out the words to the song. Mr. Gerald directed them to discuss with a partner what they thought they would be learning that day. Some students started out very generally, talking about survival, but as the discussion moved from pairs to whole group, students began connecting yesterday’s lesson on animal adaptations to how these adaptations equip animals for survival. Mr. Gerald then asked each pair to create one or two questions about this topic, leading him smoothly and seamlessly into the day’s lesson.

### Songs

**Preparation:** Find a song that connects in some way to the content, topic, or concept being taught.

**Time Needed:** 5 minutes

**Grouping:** Pairs

**Procedures for Students:**

1. Listen to the lyrics of the song being played.
2. Based on the words of the song, predict what you might be learning today.
3. When directed, discuss your predictions with a partner, justifying them with the song’s lyrics.
4. Be prepared to share a summary of your predictions with the class.
5. With your partner, write one or two questions you have about today’s topic.

*(Continued)*
Have you ever forgotten something and spent hours trying to remember it? It drives you crazy until you no longer just want the answer; you have to have it. That’s what a great opening question or quote does for students.

Lessons, units, and topics are more motivating and energizing when they begin with a question to which students want to find the answer, or an intriguing quote that stimulates curiosity. Not only do these two ideas generate interest and curiosity, they also answer the questions that so many students wonder about: “Why do I have to learn this?” or “Why is this important to know?”

Great questions and quotes also increase cognitive organization of the content by framing it into a meaningful context for personalized understanding. Research shows that when strategic framing of the lesson is done in the first five minutes of a lesson using strategies like questions and quotes, thinking for the rest of the lesson is enhanced because this is when students decide whether they are going to attend to the task or “check out.”

LaTasha would have been engrossed in Day 2’s lesson had Mr. Gerald begun the lesson with a compelling question or intriguing quote. For example, suppose Mr. Gerald had begun the science lesson with one of the following on the board:

1) “It is not the strongest or the most intelligent who will survive but those who can best manage change.” –Leon C. Megginson

or

2) Would it be better for an animal to lose its sight or lose a limb? Why?

As LaTasha skipped her way into Mr. Gerald’s class and read either one, she would have immediately begun to think more deeply about animal survival, mentally comparing and contrasting. This five-minute warm-up would quickly turn into an interactive, purposeful, and engaging lesson that makes everyone—from Mr. Gerald to LaTasha and her classmates—excited and focused.
Compelling Questions or Quotes

**Preparation:** Choosing the question or quote ahead of time is critical to ensure it correlates concisely with the standards, goals, and objectives for the topic being studied.

**Time Needed:** 5–7 minutes

**Grouping:** Individuals, partners, and small groups of 3 or 4

**Procedures for Students:**

1. Read the question/quote.
2. Respond by completing the learning task associated with the quote. *(The question is already a learning task because students need to answer it.)*
3. Be prepared to share your thinking when time is called.

**Suggested Adaptations and Applications to Other Content Areas:**

- Very young students can participate in discussion pairs to successfully complete the learning task (either answering the question or responding, using sentence frames, to the meaning of the quote).
- Older students can find quotes or write questions for homework and share for the beginning warm-up/bell ringer activities.
- Suggested use for any content area: conduct an Internet search using the search term “Quotes on ______” (insert the specific concept being taught) to find relevant quotes; use the questions stems from Chapter 2 to create thought-provoking, open-ended questions.

**HUMAN CONTINUUM**

Mr. Gerald didn’t have to show another video clip to engage the students in the continuation of their study on animal adaptations. He could start this lesson by creating a human continuum. In a human continuum, students physically represent how strongly they feel or how much they know about a topic by where they stand on an invisible line. Mr. Gerald could ask students to think about how much they know about how animals use their adaptations to survive. Students who feel they don’t have a deep understanding or still have a lot to learn would stand nearer to one end of the line, while those who felt they knew a lot about animal adaptations would stand nearer the other end. Some students would place themselves somewhere in between. Once everyone has a place on the line, Mr. Gerald will “fold” the line in half by asking the students at one end to wrap around, facing the students at the opposite end. Every student will have a partner who is facing him...
Classroom Close-Up:
Human Continuum

Before I began my first lesson on the geography of the Middle East, I wanted to activate my students’ prior knowledge, so I used a human continuum. I explained to the students that they would form a line based on their familiarity with the Middle East. I told them to line up left to right in a single line from “I know nothing about the Middle East” to “I am an expert on the Middle East” or somewhere in between. Of course, most of the students placed themselves on the “I know nothing” end. However, I then asked them to fold the line in half, so that the “I know nothings” were standing across from the “experts” on the other end and those in the middle of the line were paired together. I then took a pair from each end of the line to form a group of four made up of all levels of familiarity with the Middle East. Each group began discussing what they already knew about the Middle East and what they wondered about it. As I walked around listening in to their conversations, I realized that many of them were surprised at what they actually did know about the Middle East. These conversations provided a great tool to validate what they already knew and to clarify some misconceptions they had about the region. When they wrapped up their small group discussions, every student in the room was ready to find out more about this topic.

—Denesya Kelsey, seventh-grade social studies teacher, Atlanta, GA

or her. Now, at one end of the line students who have a deep understanding are paired with the students who have limited understanding. At the other end of the line the students who placed themselves in the middle are paired together. Mr. Gerald will now take pairs from each end of the line to form groups of four. These groups are comprised of students who have all levels of understanding. The groups will discuss what they know about animal adaptations and what they still wonder about them. Within just a few minutes, every student is focused on the topic and is mentally prepared to dive into new learning.

WHAT’S THE CONNECTION?

What’s the Connection? is an anticipatory set strategy that asks students to analyze a set of objects, pictures, or words to determine their connection. Once students have determined the connection, they can begin to make predictions about the content that will be learned.

When students are analyzing anything and looking for connections between them, they are involved in critical thinking, which deeply engages them in the lesson.

Mr. Gerald could have displayed pictures of a porcupine, a bee, and a jellyfish and asked students to discuss what the connection was between the animals. In small groups students begin discussing that all three are animals. Mr. Gerald would push their
Human Continuum

Preparation: No advanced preparation is required.
Time Needed: 8–10 minutes
Grouping: Groups of 4

Procedures for Students:
1. Think about how much you know about the topic.
2. When directed, put yourself on the “invisible line” based on how much you know about the topic.
3. When directed, the person at one end of the line will “wrap” the line, so that each person is standing directly in front of the person on the opposite end of the line, forming pairs.
4. Form groups of four by combining pairs from each end of the continuum.
5. With your group of four, discuss what you already know about the topic and what you wonder about the topic.
6. Generate a list and be prepared to share it with the whole group.

Suggested Adaptations and Applications to Other Content Areas:
No adaptations are needed; this strategy is naturally differentiated to meet the needs of all learners and can be applied to any content being taught.

thinking further by asking what another connection would be. He would continue this process until students made the connection that all the animals have adaptations to protect them by causing pain to their predators.

By the time Mr. Gerald introduces the lesson’s essential question—“What adaptations do animals use to protect themselves?”—LaTasha is eager to experience the lesson.

What’s the Connection?

Preparation: Select and gather the objects, pictures, or words that students will analyze.
Time Needed: 5–7 minutes
Grouping: Individuals, partners, small groups

(Continued)
STORYTELLING

To capture his students’ attention and draw them into the lesson, Mr. Gerald could have opened with a story.

Since the beginning of time, storytelling has served as a way to communicate information, pass on history, and answer compelling questions. While informational text provides the facts and details and speaks to the mind, a story provides a narrative that speaks to the heart. By making students laugh, cry, or think critically, storytelling activates students’ emotions, making learning memorable and meaningful and causing those facts and details to “stick.”
Many stories can also serve as metaphors, asking students to compare what they are learning and know little about to something familiar. According to Classroom Instruction That Works (Dean, Hubbell, Pitler, & Stone, 2012), metaphors prompt students to identify similarities and differences, which has the greatest potential for increasing student achievement.

Mr. Gerald began his lesson by telling his students an adaptation of The Animal School, a fable by George Reavis (1999), in which all the animals try to do the same things. For example, the duck excels in swimming but fails when it comes to running. When he finishes the story, Mr. Gerald asks the students to think about what they see as the problem and the solution to this story. He asks them to stand and circle up with the people sitting at their tables and take turns discussing the problem and solutions and to sit down when they are finished. When everyone is seated, he draws the class back together to share what they discussed. What follows turns into a meaningful discussion about the purpose of the adaptations different animals have and how they are uniquely suited for their survival. Mr. Gerald is able to seamlessly transition from this discussion into that day’s lesson, with every student cued in to the learning.

Storytelling

Preparation: Find or create a story that provides a narrative account or creates a metaphor for what is being taught.

Time Needed: 8–12 minutes

Grouping: Groups of 4

Procedures for Students:

1. Listen to the story your teacher tells.
2. When directed, stand and cluster in with the people sitting at your table.
3. Take turns discussing what you learned from the story your teacher told and/or responding to the prompt you were given.
4. Sit down once everyone in your group has shared.
5. Share a summary of your group’s discussion with the class.
6. Make connections between the story and the lesson.

(Continued)
Suggested Adaptations and Applications to Other Content Areas:

- The teacher will adapt the complexity of the story based on the students.
- Suggested uses for English language arts: Tell a story about your day using elements of whatever genre you are teaching (e.g., “Once upon a time I went to the grocery store . . .”)
- Suggested uses for mathematics: Tell a story about someone who solved a problem using mathematical practices (e.g., “I wanted to get an estimate on carpet for my house, and the carpet company asked me for the measurements. I gave the measurements to them and they gave me a very reasonable estimate. However, when they carpeted my house, it was several times the price they quoted! What happened?” Students will discuss that you measured for area inaccurately and that you probably measured the perimeter instead.)
- Suggested uses for science: Tell a story from the point of view of whatever topic you are studying (a molecule, a cell, an animal, a chemical compound)
- Suggested uses for social studies: Tell a story comparing the concept you are studying with something in everyday life (e.g., “My skateboard wheel broke off and I wanted it fixed, so I took it to an appliance repair shop and told them to fix it. They added a handle to the back and charged me $50! What did I do wrong?” Students will talk about how you should have taken it to someone qualified to fix it and then been specific about what you wanted done. Compare this to participating in government.)
- Suggested uses for physical education/music/art: Share inspirational stories of athletes, musicians, and artists who overcame challenges and succeeded through effort and perseverance.
Questions for Reflection

1. How has your thinking changed about using anticipatory sets?
2. Think about a lesson you taught recently or plan to teach soon. Reflect on the following:
   - What strategy for anticipatory sets could you use to “hook your students in” to the content?
   - How might using this strategy change the outcomes or the energy of the lesson?
3. What goal can you set for yourself now that you understand the purpose and implementation of anticipatory sets?