The ability to draw conclusions while reading is an important comprehension skill, but it needs to be reinforced as students learn.

Several years ago, Mary’s (first author’s) son, Jimmy, and his friend Patrick, were at home writing a report to accompany their fifth-grade science project. The last section of the assignment puzzled them. It said, “draw conclusions.” They asked Mary to clarify this for them. She did so gladly and provided what she thought was a clear, thorough explanation. As she turned and began to walk away, she overheard Patrick whisper, “I don’t think your mother was right. We’re supposed to draw the conclusions.” The storybook character Amelia Bedelia flashed into Mary’s mind. It had never occurred to her that children might interpret “drawing conclusions” in this literal way.

Mary knew the classroom teacher and was sure she had taught the students how to draw conclusions before assigning this project. She was equally certain that some students were very familiar with drawing conclusions before the teacher’s formal instruction began and would need to be challenged to extend their current understanding. Others probably “caught” it during instruction and could be successful in drawing conclusions with minimum support. Some students, like Jimmy and Patrick that day, would need additional instruction and guided support in order to move beyond their literal misunderstanding. This anecdote, and many like it, caused us to wonder how to teach students this important comprehension skill and provide them with tasks that would reinforce it at developmentally appropriate levels. In the remainder of this article, we define “tiered (leveled) graphic organizers,” demystify the process of drawing conclusions, and provide examples of tiered graphic organizers for drawing conclusions with upper elementary-grade students.

Meeting the needs of all students

Today, perhaps more so than ever, teachers need to be able to identify where each student is in his or her learning and provide targeted instruction. This is a daunting job, especially as class sizes get bigger, diversity in the classroom grows, and teacher assistants are either splitting their time between classes or are nonexistent. For years, special educators have made curricular and instructional adaptations to meet the needs of learners. These adaptations often involve changes to the “conceptual difficulty” of a task as well as to “some of the content” (Switlick, 1997, p. 243). Switlick noted,

Many students cannot keep pace with the curriculum as it is structured in the general education setting. If curricular adaptations are not made for individual students, these students may suffer a different kind of segregation. While in the general education classroom sitting beside their peers, they may be denied the basic right to learn. Thus, curriculum modification has become a requirement in today’s classroom. (p. 227)
In addition, the No Child Left Behind Act of 2001 (NCLB; 2002), federal legislation designed to increase student achievement in all academic areas for all precollegiate students in the United States, heightens the need to match students with appropriate skills so they can achieve steady, fast-paced academic growth. NCLB specifies that all students must reach the “proficient” level on state tests by 2013–2014, and that all individual schools must meet “adequate yearly progress” (Rebora, 2004). These, as well as other often-competing demands, especially for students, teachers, and administrators in schools receiving Title I funding (Title I is a U.S. federally funded program for at-risk students), necessitate careful, thoughtful curricular plans.

Furthermore, according to the Center for Research on Education, Diversity, and Excellence (University of California, Santa Cruz, Center for Research on Education, Diversity, and Excellence, 2002), by the 2030s, if not sooner, 40% of the school-age population will come from homes where students speak languages other than English as their native language. It is conceivable that students in any one class might be at various levels of second-language acquisition: “preproduction, early production, speech emergence or intermediate fluency stages of acquisition” (Lake & Pappamihiel, 2003, p. 202). The Center noted, “most U.S. schools are dramatically under-educating this student population” (University of California, Santa Cruz, Center for Research on Education, Diversity, and Excellence). Teachers continually fashion modifications that control the language and conceptual difficulty of academic tasks, making it possible for English learners to focus on skills that will lead to English proficiency while acquiring content knowledge.

Finally, it is as important to provide modifications for students who excel at certain tasks as it is to provide modifications for students who are less accomplished. Cohen (1997) noted that many gifted students are “underchallenged” and not receiving instruction that is developmentally appropriate for their level of achievement (cited in Reis, Kaplan, & Tomlinson, 1998). Switlick (1997) recommended that teachers “subgroup” students to meet all needs. Such “subgrouping” or “differentiated instruction” (Tomlinson, 1999) meets the developmental needs of high-achieving learners in heterogeneous classrooms, as well as those of struggling readers and writers.

**Differentiating instruction**

Many of us are familiar with the term *differentiated instruction* as a result of Tomlinson’s (1999) work. According to Tomlinson, instruction can be differentiated in three basic areas: content, process, or product. When differentiating through content, students are given different materials at a level in which they can work independently with successful understanding. These materials, such as leveled books, ensure that learning is at each student’s “just right” level. Differentiating through process focuses on the modification of teaching practices. All learners are taught in an instructional mode that allows them to grasp important concepts successfully. When a teacher notices that two or three students may seem confused about a concept, she works with this small group a little longer. In this way, the process (the instruction) has been modified.

When differentiating through product, the follow-up assignment or response is leveled or “tiered,” enabling students to complete assignments that are at their “just right” level. It’s not realistic or even advisable for teachers to develop individual or small-group lessons for every instructional task. It is feasible, however, to meet individual needs by creating leveled, or tiered, follow-up activities to reinforce whole-class instruction.

**Designing customized tiered graphic organizers**

The steps offered in Figure 1 provide guidelines for teachers to use when creating effective tiered graphic organizers. It is important to begin with a clear idea of the concept of the lesson and the expected outcome. The outcome does not change throughout the process; however, when it is time to apply what has been learned, students will be at varying points of understanding. If the teacher asks everyone to do a highly sophisticated, challenging follow-up activity, for example, some students will fail. On the other hand, if she asks everyone to continue to work at an introductory
level, some students will not be challenged enough. There is no magic number of tiers to create. In some cases, the teacher might begin by creating just two levels. The teacher, based on the needs of the students in the class, determines the appropriate number of levels. Once the graphic organizers have been designed, make sure the outcome is the same for each one (Witherell & McMackin, 2002). It is important to have the tiered organizers look equally challenging and have an equal workload. It is the increasing cognitive demand placed on the learner that should differentiate one level from the next, not the amount of “physical” work involved.

How to get your class started

As Harwayne (2004) stated, “teachers are matchmakers.” After two or three tiered graphic organizers are designed and the concept has been taught to the whole class, the teacher needs to match students with the appropriate organizer. We want each match to be one that works: the level is instructional for the student, the work is motivating, and the result is successful. Teachers have found it helpful to photocopy each “tiered” organizer on a different color of paper (e.g., introductory organizers on green paper, intermediate organizers on blue paper, challenging organizers on yellow). If your school does not provide colored paper, you might want to highlight the organizers’ titles using a different color marker for each level. Once the teacher has identified which leveled graphic organizer would be best for each student, the actual work can begin. There are several ways to use tiered responses in the classroom:

1. If there is not a lot of explanation needed to complete the graphic organizers, students can finish them with little direction. The teacher will have to pass out the appropriate tiered graphic organizer to each student. If the graphic organizer is on each learner’s developmental level, he or she should be able to complete it independently.

2. The teacher may review the directions for all the graphic organizers at one time, before sending students off to work independently. We’ve found it effective to make a transparency of each organizer. We provide short oral vignettes, such as the basketball scene or the dog with the muddy paws introduced later in this article, and model

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**FIGURE 1**

Sequence of steps to follow when designing tiered graphic organizers

<table>
<thead>
<tr>
<th>Creating tiered graphic organizers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the concept/strategy/skill you will teach.</td>
</tr>
<tr>
<td>Decide and state an overall desired outcome for your instruction.</td>
</tr>
<tr>
<td>Think about the levels of your students. Where and with what will they be successful?</td>
</tr>
<tr>
<td>Think about the students who will easily achieve the desired outcome. What type of graphic organizer can you create to challenge them to think more complexly about the targeted concept/strategy/skill? Create it.</td>
</tr>
<tr>
<td>Continue to focus on the same desired outcome. Design one or two graphic organizers that are less cognitively challenging.</td>
</tr>
<tr>
<td>Match your students to the appropriate leveled graphic organizers.</td>
</tr>
<tr>
<td>Assess students’ work. Determine if anyone might be successful completing a more complex graphic organizer. Allow him or her to try it!</td>
</tr>
</tbody>
</table>

Note: Adapted from Tomlinson (1999).
how to complete each graphic organizer with these vignettes. We remind students as we use each transparency that some of them will be receiving it. We want all students to be familiar with all levels. Students working on the introductory organizer in the first lesson will hopefully be able to move to the intermediate level after additional instruction on future days. Likewise, students working on the intermediate level should be able to progress to the challenging level with additional teaching and practice. If you find that students who use the challenging organizer successfully finish the task before other students, you might consider making a fourth-level organizer that is cognitively more demanding.

3. The teacher can call one group to the “rug” and explain how the tiered response is to be completed, while students at their desk complete their own level without extensive explanation or finish other work while they are waiting for directions. Once the teacher is finished explaining to one group, she can call up another.

4. The teacher explains all levels of the tiered organizer and allows students to pick their “just right” level organizer to complete independently. Teachers have found that this method can work well when students’ choices are monitored. When this method is used, teachers need to explain carefully that students should choose a graphic organizer that will make them “think harder” but not one that is too difficult. “When children choose their activities within a structured environment, they are able to choose tasks consistent with their abilities and interests” (Roller, 1996, p. 2). In this way, they will choose tiered responses that challenge but do not frustrate them.

5. The graphic organizer can be explained to one capable student, who in turn will explain it to others, using that leveled graphic organizer.

Teachers need to be comfortable implementing their chosen classroom management system. The goal is to get students to complete an appropriate graphic organizer successfully. Tiered graphic organizers enable teachers to consistently assess whether a task is too difficult or not challenging enough. The assessment guides the instruction. If there is doubt that all will be successful, the teacher may decide to assign partner work for some students (Prescott-Griffin & Witherell, 2004) or differentiate the process by completing the task together in a small-group format.

Vygotsky’s (1978) zone of proximal development addresses the value of adult support and guidance, as well as the need for teachers to know where students are developmentally and how to nudge them along. Vygotsky noted “what is in the [child’s] zone of proximal development today will be the actual developmental level tomorrow—that is, what a child can do with assistance today she will be able to do by herself tomorrow” (p. 87). Teachers need to offer students challenges that are within their reach (Dixon-Krauss, 1996). With tiered organizers, the sequence of instruction and application of a skill is basically “built in.” When students are successful at one level, they are encouraged to try the next level graphic organizer. Each level becomes the measurement of student success, and each level ensures that learning continues to take place.

**What do readers do when they draw a conclusion?**

All readers, even young children, draw conclusions. A youngster, for example, soon realizes that a helium balloon will fly away forever if he or she doesn’t hold on to the string tightly. The child quickly makes a logical connection between cause and effect. When we draw conclusions, we know the effect (result) of an event, and we try to work backward to determine the cause. Here’s another example: Suppose a dog were playing in a muddy backyard. A young boy lets the dog into his house. Mom comes home later and finds black paw prints on her new white bedspread. It’s probably safe to infer that the dog played in the mud and then jumped onto the bed. Nobody told us this explicitly, but it is a logical conclusion based on the information we have and our prior experiences. In this case, we know the result (i.e., a bedspread with black paw prints) and must work backward to determine the cause. Here’s another example: Suppose a dog were playing in a muddy backyard. A young boy lets the dog into his house. Mom comes home later and finds black paw prints on her new white bedspread. It’s probably safe to infer that the dog played in the mud and then jumped onto the bed. Nobody told us this explicitly, but it is a logical conclusion based on the information we have and our prior experiences. In this case, we know the result (i.e., a bedspread with black paw prints) and must work backward to determine what caused this effect (i.e., the muddy yard and the boy letting the dog in the house). Pearson and Johnson (1978) referred to drawing conclusions as “backward inferencing” (as contrasted with making predictions, which they identify as “forward inferencing”). According to van den Broek, Fletcher, and Risden (1993), inferences
occur “when the reader activates information that is evoked by, yet goes beyond, the information that is provided explicitly in the text” (p. 170). Allan and Miller (2000) pointed out that Heber’s (1978) interpretive level of comprehension, his inferential level, is sometimes referred to as “reading between the lines” or a blending of “text-based connections and schema-based connections” (p. 154). Readers connect what they know to new information encountered in the text.

Teachers often face the challenge of translating this jargon-laden language of inferencing into language that is more “kid friendly.” Beal, (1990), who investigated types of inferences students make, seems to have found a way to do this. She asked children to tell her “what they had to figure out in order to understand the story” (p. 1013). Now, when teaching inferencing, we make it clear that readers have to “figure out” what the author intended them to know. They need to go beyond exactly what was written. They need to use the information in the text, blend it with their own experiences and knowledge, and then read between the lines to figure out what the author would have written if it were possible to write everything he or she was thinking and feeling. All readers, at times, find it challenging to fill in the gaps that exist between the lines of text. Lack of sufficient background knowledge, “inconsiderate texts” (Armbruster, 1984), weak vocabulary knowledge, lack of relevant experiences, and many other factors contribute to the level of difficulty readers encounter when making inferences. Given this reality, how can we structure our teaching to create developmentally appropriate experiences for all learners within whole-class environments?

**Using think-alouds to teach and reinforce drawing conclusions**

As we mentioned earlier, drawing conclusions is an abstract concept. In order to teach this skill, we begin with concrete examples; we might provide the following think-aloud: Imagine I just turned on the TV to catch the end of a basketball game. The cameraman scans the stands and shows the hometown crowd going wild. Everyone is cheering and clapping. Banners are waving, and people of all ages are hugging one another. To draw a conclusion, I must combine what I know for sure with what I think about this information and then determine what else I can figure out from the information provided. What I know for sure is based on what the author describes in the text. This step can be difficult for students. We’ve found that they often skip over the factual details and jump right to a conclusion. This may not be a problem with short, simple texts, but without carefully considering the effect first, students might infer an incorrect cause (conclusion), especially when reading challenging materials. It’s worth noting, too, that when students compose stories, they often leave out details, which makes it difficult for readers to draw conclusions. This skill can be reinforced while reading and writing. What I think about this refers to connections the reader makes between the information in the text and the background knowledge and experiences he or she brings to the text. What else I can figure out is what the reader determines when he or she reads between the lines—when the reader draws a conclusion. The objective of the lesson that follows is for all students to be able to use this process to draw conclusions. During the lesson, we’ll talk through more complex ideas. When we get to the follow-up activities, however, we’ll “tier” them so this skill can be reinforced at educationally sound levels for everyone.

Let’s go back to the basketball game. By piecing information together, we can figure out, or conclude, that the home team just won the game. As teachers, we would talk through the process we used, focusing on what information came from the text, what information we brought from our experiences, and how we figured out the result. After providing a few additional examples, we would invite students to offer examples of their own. Finally, we move on to examples from student texts.

Let’s pretend students are just beginning to read *Bud, Not Buddy* (Curtis, 1999). This is the story of Bud, a 10-year-old boy who decides to look for the father he never knew. Bud’s mother, who died a few years earlier, left flyers advertising Herman E. Calloway and his famous band. Bud has a strong feeling that Mr. Calloway is his father. He sets out on a humorous and touching journey to find Mr. Calloway.

At the start of the book, Bud is getting ready to move from an orphanage to a foster home. Before leaving, he checks to make sure the few
belongings he has are still in the battered suitcase he carries:

First I pulled my blanket out and saw that everything was where it was supposed to be. At the bottom of my suitcase were the flyers. I took the blue flyer out and looked at it again.

The paper was starting to wear out from me looking at it so much but I liked checking to see if there was anything I hadn’t noticed before. It was like something was telling me there was a message for me on this flyer, but I didn’t have the decoder ring to tell what it was. (Curtis, 1999, p. 6)

Thinking aloud, we raise the following points:

**What do I know for sure?** Bud says, “I looked at the flyer again.” The book also says, “the paper was starting to wear out from me looking at it so much....” Stop and think about this information.

**What was I able to figure out from this information?** Bud looked at the flyer many times. It must be important to Bud, and it contained valuable information. How did I figure this out? I took all the clues the author provided. For example, the author used the word again to let us know that Bud has already looked at this flyer before—probably many times. I got this same idea when it said the paper was wearing out. I imagined myself in Bud’s situation and thought about what the author was really trying to tell me. Why didn’t the author just come out and tell me instead of having me figure it out? I think the author is giving me one piece of information at a time so I don’t know the entire story all at once. This flyer is mentioned in several sentences and seems to be something Bud treasures. Because I’ve taken time to figure this out, I’ll probably remember this information as I continue to read.

Let’s try one more example of drawing conclusions. As mentioned previously, we find out in chapter 1 that Bud is moving to a new foster home. He’ll be living with Mr. and Mrs. Amos and their 12-year-old son, whose name is not mentioned. We don’t learn anything else about the Amoses until we get to chapter 2. Here’s how the second chapter begins:

There comes a time when you’re losing a fight that it just doesn’t make sense to keep on fighting. It’s not that you’re being a quitter, it’s just that you’ve got the sense to know when enough is enough.

I was having this thought because Todd Amos was hitting me so hard and fast that I knew that the blood squirting out of my nose was only the beginning of a whole long list of bad things that were about to happen to me. (Curtis, 1999, p. 9)

**What do I know for sure?** Todd Amos was hitting Bud. Bud was thinking about ending the fight. Stop and think about this information. What else were we able to figure out from this information? Bud was talking in these two paragraphs, and he was getting beaten up pretty badly. Todd Amos is the 12-year-old boy Bud is living with in his new foster home. Todd’s a bully. How did I figure this out? I wasn’t sure who was talking at first, but when I saw the word I in the second paragraph, I knew Bud was telling us what he was thinking. I remembered information that was given in chapter 1. I also remembered that only Mr. and Mrs. Amos were named. The son’s name wasn’t given. I pieced the information together and read between the lines to conclude that Todd was the 12-year-old boy. I figured out he’s two years older than Bud and beating him up the first time they meet. He doesn’t even know Bud. Maybe he wants Bud to know who’s going to be the boss in the house. Why didn’t the author just come out and tell me instead of having me figure it out? Not knowing the son’s name made me pause for a second when Todd Amos suddenly appeared in chapter 2. I was thinking, “Who is this?” Introducing Todd’s name and his unforgettable actions at the same time will help me remember how mean Todd was. Also, it was fun to figure out who Todd was.

Many additional examples of think-alouds might need to be shared with students before they are ready to apply this skill independently. While this instruction is taking place, we are observing and informally assessing which students are finding this easy and would benefit from more challenging work; which students are ready to try some comparable examples on their own; and which students are beginning to understand this skill but need additional support in order to be successful. When students are ready to apply this skill independently, we match each of them to one of the following graphic organizers.

Different routes to the same destination: Drawing conclusions with tiered graphic organizers
FIGURE 2
Introductory-level graphic organizer

Drawing conclusions

Name _______________________________ Date __________________________

I will read
page __________________________________________________________,
paragraph(s) ____________________________________________________

Think about the passage you just read and list what you know for sure.

Stop and think about this information.

What else were you able to figure out from the passage you read?
Tiered graphic organizers

Drawing conclusions

Students using this introductory-level graphic organizer (see Figure 2) will be able to read a passage identified by the teacher, list what they know for sure (i.e., the literal information in the passage), stop and think about this information, then determine what else they can figure out (i.e., what conclusion can be drawn; what the author intends the reader to know but hasn’t come right out and said).

Clues to conclusions

Students using this intermediate-level graphic organizer will complete the same activities as in the introductory-level graphic organizer (see Figure 3). In addition, they will be able to make explicit connections between the information in the text and the background knowledge and experiences they used to draw the conclusion.

Considering conclusions

Rather than having the teacher specify the passage(s) to read, as in the two previous graphic organizers, students will read until they can identify a place where they can draw a conclusion independently. Students using this challenging-level graphic organizer (see Figure 4) also will be able to complete the activities described for the intermediate level.

Support understanding of concepts and skills

It’s probably safe to say that none of us wants fifth graders to reach for a box of crayons every time they draw conclusions. Even with careful teaching, however, this skill, like most others, will need to be reinforced at different levels of complexity if children are to grow and develop at the fastest and most effective pace.

Educators are constantly concerned with the range of differences in the classroom and in optimizing instruction for each learner: “Researchers and teachers alike know that one size never fits all” (McCordle & Chhabra, 2004, p. 6). Modifications made must be based on sound knowledge of the learner: what he or she knows and can do, as well as his or her learning style (Gregory & Chapman, 2002). We hope teachers will use the guidelines and models of graphic organizers in this article to design and create graphic organizers that meet their unique curriculum needs and the developmental levels of the students in their classes.

In the business of successful instruction, teachers must be continually aware that learning is taking place. The use of tiered graphic organizers assists teachers in assessing growth, as they observe students during instruction and as students progress from one level to the next. Although we have not conducted empirical studies to determine the effectiveness of these graphic organizers on student learning, teachers who have used them and other graphic organizers we have designed (see Witherell & McMackin, 2002, in press) have found they support student understanding of concepts and skills. Teachers have determined the effectiveness of tiered organizers as students, who begin the skill at a lower level graphic organizer, show enough growth to successfully complete the next level graphic organizer. Additional research in this area is clearly warranted; but based on our experiences and the research of others (e.g., Tomlinson, 1999), it appears that exploring differentiated routes through the use of tiered graphic organizers is a promising way for all students to reach the ultimate destination of enhanced comprehension.

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References
FIGURE 3
Intermediate-level graphic organizer

Clues to conclusions

Name _____________________________________________ Date __________________________

I will read
page ____________________________________________
paragraph(s) ______________________________________

Think about the passage you just read and list what you know for sure.

Stop and think about this information.

What else were you able to figure out from the passage you read?

While figuring this out, what connections did you make to your own experiences or to something you’ve read?
FIGURE 4
Challenging-level graphic organizer

Considering conclusions

Name _____________________________________________ Date __________________________

I read
page ___________________________________________________________
paragraph(s) ____________________________________________________

Think about the passage you just read and list what you know for sure.

Stop, think about this information, and relate it to your experiences.

What else were you able to figure out from the passage you read?

While figuring this out, what connections did you make to your own experiences or to something you’ve read?