During a neighborhood walk, the preschoolers in Ms. Silvia's class took photographs of businesses, people, and buildings. They discussed terms such as stability, gravity, and foundation. In the classroom, Ms. Silvia displayed their pictures on a large screen and used the See/Think/Wonder thinking routine to help the children think and talk about their experiences on the walk. Thinking routines are child-centered classroom strategies that extend and deepen children's thinking. They are short, goal oriented, and easy to learn.

See. Ms. Silvia first asked, "What do you see?" The children talked about the businesses and restaurants they recognized in the photos. Mark, a preschooler from Miami, Florida, had heard adults discussing hurricanes and was curious about how tall buildings stay up in strong winds. He started creating buildings in the blocks area.

Think. Next, Ms. Silvia asked Mark, "What do you think about these tall buildings?" In response, Mark drew a picture of a building, then used it as a guide to create a tall construction with blocks.

Wonder. Finally, Ms. Silvia asked the class, "What do you wonder about the stability of this building?" The children talked about ways to build a tall block tower so that it would not fall down. Mark tested the stability of his block building by waving a thin board at it to create wind. After the test, Ms. Silvia invited the children to draw their structures before building them. She asked questions that helped the children use their understandings of gravity and stability to make predictions:

Ms. Silvia: What do you think would happen if you built your tower taller?
Mark: It would fall.
Ms. Silvia: What did you see in the buildings in our neighborhood walk?
Mark: It is bigger in the bottom; let's put more blocks in the first floor.

Adapted from Angela K. Salmon, "Tools to Enhance Young Children's Thinking," Young Children 65 (September 2010), 26-31.
Ms. Silvia continued to use the See/Think/Wonder thinking routine to discuss the children’s drawings of tall buildings in ways that would make their thinking visible—something they can see and understand. The children connected their concepts of stability, foundation, and gravity to what they saw on the field trip and also to their drawings and block buildings.

Effective teachers mediate children’s thinking and learning. They design learning environments that stimulate children’s curiosity and engage children in thinking routines throughout the curriculum.

**Defining thinking routines**

Thinking routines are a series of questions that teachers ask children in order to lead them through the steps of critical thinking. The questions help children understand where their own ideas come from. Answering the questions helps children make connections between familiar events in their lives. Teachers can include thinking routines in their practice as tools to engage children in deep thinking. Often this helps children become aware of the thinking process that is taking place in their minds while playing in the dramatic play, block, reading, or writing learning centers. When teachers give a name to the type of thinking involved (for example, connecting), children develop a language of thinking. In the opening story, Ms. Silvia fired up Mark’s thought process when she used the See/Think/Wonder routine while he observed, drew, and constructed his building. Mark had to show evidence of his thinking while observing, predicting, and testing. This routine is one of several developed by the Project Zero Visible Thinking project (Ritchhart & Perkins 2008; Project Zero 2010). These short, easy-to-learn thinking routines target different types of thinking (see www.pz.harvard.edu/vt/VisibleThinking_html_files/VisibleThinking1.html for more information).

Teachers can use thinking routines during circle time and small- and large-group activities. Observe children’s play and step in, without disrupting, to use an appropriate thinking routine to promote learning. For example, 4-year-old Alexander found a rock on the playground. He wanted the rock to stay perched in the branches of a tree. A classmate, Ilene, offered Alexander a piece of cloth, and they both tried to use it to build something that would prevent the rock from falling.

Ms. Karla, Alexander’s teacher, promoted deeper inquiry and helped him think with evidence by using the Think/Puzzle/Explore routine, combined with the What Makes You Say That? routine. The Think/Puzzle/Explore routine sets the stage for a child’s deeper investigation of a problem or challenge. To use the What Makes You Say That? routine, teachers ask children what is going on; they follow up by asking children to identify what they see that lets them know what is going on.
Ms. Karla: Why do you think this rock is falling?

Alexander: This rock is my dad, he is big. [Alexander is making connections.] (He tests rocks of different sizes, which continue to fall off the branch.)

Ms. Karla: Let’s Think/Puzzle/Explore how this can work. Why is it falling?

Ilene: This cloth can hold it. [Irene is problem solving.]

Ms. Karla: What makes you say that?

Alexander: No, no, this is big . . . and heavy too. [He is reasoning with evidence.]

Ms. Karla: Alexander, you are puzzled or wondering about the weight and size, right? Ilene, is that how you want to explore how to hold a big and heavy rock with this piece of cloth?

Alexander: This is my dad (pointing to the rock). It is big and strong, see? (Alexander puts the rock on a branch, trying to prevent it from falling.)

Ilene: No, it’s better with this, it is bigger (inviting Alexander to use the piece of cloth again).

Ms. Karla’s questions prompted the children to think and figure out how to solve problems. Thinking routines are flexible and useful in many situations. Through practice, children can recognize when a situation calls for thinking.

Making thinking visible

One simple problem with thinking is that it is invisible. Visible thinking uses thinking routines and documentation created by children or teachers to make the thinking process more visible in the classroom in a natural, manageable way. To make young children’s thinking visible,

- Document learners’ unfolding ideas as they think through issues, problems, or topics. Use videos and photographs of projects at different stages along with transcriptions of children’s conversations with you or one another.
- Display “thinking maps,” which can help children and teachers connect ideas and observations. For example, a teacher could create a visual presentation that includes a child’s drawings about an idea and her transcribed words that show her thinking process.

By using thinking routines and documenting children’s responses, teachers can make children aware of their own thinking and thought processes. When children speak, write, draw, build, or dramatize their ideas, they make their thinking visible.

Building a culture of thinking

A culture is shaped by the beliefs and practices shared by the members of a community. To create a classroom culture of thinking, teachers can

Revisit their own beliefs about and understanding of thinking. When teachers think about thinking, their teaching style tends to be more child centered (Barahal 2008).

Use the language of thinking in daily routines. Consider the difference between “Let’s look at these two pictures” and “Let’s compare these two pictures.” Compare encourages children to use a higher level of critical thinking.