Inventing an innovative New Orleans architectural style that respects the historic legacy and addresses environmental realities; and
Designing plans to save the eroding Louisiana wetlands.

Design Thinking starts with understanding the problem and considering many ways to solve it. Collaborative brainstorming around users’ needs informs both form and function of the solutions designed. “We ask students to look at everything around them—chairs, light fixtures, buildings—and consider the decisions the designers made,” Shaffer said. “This prepares them for the roles they’ll serve when solving their design challenges—what questions do we need to consider before we create solutions.”

**Elegant Fit**
About two years ago, Jennifer Hernandez, principal of Marietta Center for Advanced Academics in Marietta, Georgia, realized the intersection between the way engineers and artists create is similar and complementary. She hired design artist Kelly Karr because, “Design Thinking is the perfect blend of these disciplines. It fuels the innovative spirit, collaborative problem-solving, and sense of aesthetic that we might have missed if we stayed focused on STEM,” Hernandez explained. “Adding the artist lens helps students be more observant. Our students learn art is more than decorative and lives beyond museums. Its presence is felt in every aspect of our lives.” Karr teaches students to follow five steps as they integrate art and engineering:

- Ask insightful questions;
- Imagine possibilities;
- Plan collaboratively;
- Create; and
- Modify to improve.

Hernandez is passionate that “this cyclical process prepares students for the world they’ll encounter. Yes, the world needs more engineers, but this process isn’t just for engineers. This is a mindset, a life skill that prepares students for the future.”

**Make Disposable Mistakes**
The Design Thinking process encourages people to be fluid with ideas and reflective about what they could improve. Dennis Palm, principal of Weaver Lake Elementary School in Maple Grove, Minnesota, said he encourages students to identify and learn from their mistakes. Aimee Stahl and Lisa Feigenson, researchers at Johns Hopkins University, have studied how young children learn. They found that when expectations are defied and predictions are wrong, children focus more intently and learn more. Palm’s experience confirms the research. Mistakes spark curiosity and deeper learning.

Weaver Lake Elementary installed a “maker space” to give students an open-ended place to playfully explore ideas and materials. This studio integrates technology into the creative process. Students are using Makey Makey boards and Scratch coding as they play with ideas. Their curriculum leader, Karla Juetten, came to educa-