

Programming the Foundations For Lifelong Learning

With over 20 years of experience in elementary and early childhood education, Mary Meadows understands the importance of hands-on, playful learning. “The push for young children to memorize facts at an early age rather than to learn through creative problem-solving and hands-on exploration and discovery was evident in the early stages of my career in education,” she says. This model led to children who were confident with memorizing, but had trouble understanding and applying mathematical and scientific concepts. Meadows approached teaching from a different angle—she wanted to **encourage curiosity in children, helping them deepen their understanding through observation and experimentation.**

Today, she is expanding on this notion through both her teaching and research on robotics with LEGO® Education WeDo 2.0 in kindergarten. One way she brings hands-on learning to life in her classroom is with iPads and the WeDo 2.0 app and other coding apps. “Through investigation, exploration and discovery, the students engage in building and programming robots,” she says, explaining that **LEGO® Education provides the foundational tools for students to learn through play and create their own ideas.**

While elementary school may seem like a young age to start learning to code, Meadows is a strong advocate for starting early. “Because my students are so young, nothing stands in their way when it comes to solving problems together,” she says. “They are very quick to learn that just because I am the ‘teacher,’ I do not have all the answers, and soon

become confident with their own discoveries.” In fact, she says that she is amazed at how much these children can accomplish, working together to figure out what comes next, even going beyond what’s expected in their investigations.

What’s more, they start to make connections between what they’ve learned in class and the world around them. After learning about gears and their impact on a robot’s mobility, one of her students shared how he discovered gears in the toaster oven as he watched his bagel move through the equipment.

“They are very quick to learn that just because I am the ‘teacher,’ I do not have all the answers, and soon become confident with their own discoveries.”

“To me, WeDo 2.0 has been life-changing for this young child as he interprets the science of the physical and natural world,” says Meadows.

WeDo 2.0 has obvious benefits for teaching STEM to young students, but according to Meadows, its impact on childhood development is far-reaching: **“I have seen students learn left-right directionality, extend their number recognition and calculation, become ‘we’ rather than ‘teacher’ dependent, improve fine and gross motor skills, analyze and interpret data, improve in self-confidence,**



Mary Meadows

Early Childhood Chair and Kindergarten Teacher
Villa Duchesne and Oak Hill School
LEAP Teacher, Kindergarten
St. Louis, Missouri

and share in conversation to solve problems.” It helps students with social, emotional and intellectual development, equipping them with the skills for building a bright future.

As an advocate for early STEM learning, Meadows has advice for teachers who are thinking about trying WeDo 2.0, encouraging them to just download the app and get started. “Engage your students in helping you learn to code,” she says. “Put it in the hands of the children to investigate. MILO [the WeDo 2.0 mascot getting started robot] **introduces young children to a world of discovery.”**

