

Delivering Digital STEM Curriculum to Improve the Quality of Teaching and Student Performance

By Kenna McHugh, Learning Counsel Writer



CEO and President of Accelerate Learning Vernon Johnson served in public education for over 25 years. During those years, he served as a superintendent in several districts and led several educational companies. About four and a half years ago, working with Rice University, Accelerate Learning developed a PreK-12 STEM curriculum called STEMscopes. Johnson guided the program into the school districts, which now serves well over 4 million students. “Originally, we were an incubator project, a professional development and curriculum development project inside Rice University at Houston. At one point the Provost and the President at Rice University asked me to come down and take a look at what they were doing and see what they should do with it.”

Johnson visited, looked at their program, and said to them; “Well, I think you ought to make a company out of it and let it do what it can to advance science across America.” He told us; “They agreed and here we are four and a half years later.”

As CEO of Accelerate Learning, it is Johnson’s responsibility to guide the undertaking of improving the quality of teaching and student performance. “If we achieve both of those things, then we’ll be achieving our mission as a company.”

Now, STEMscopes delivers digital STEM curriculum in all 50 states. The pre-kindergarten through twelfth grade programs are science, technology, engineering, and math, including the teacher and student assets. “We believe that they will improve the quality of teaching because of the way the curriculum is created. We believe that student performance will change and we have evidence of that now,” says Johnson.

The evidence is based on a study of 360,000 fifth and eighth graders in Texas centered on student performance. The students performed at a much higher level than when using another curriculum. “It’s about the quality of teaching and it’s also

about the resulting student performance,” explains Johnson. “Our curriculum outperformed against other curricula, even homegrown curricula, on the fifth and eighth grade tests.”

Johnson understands the importance of accountability as a new company. “We want to know whether we’ve done a good job or bad job and it’s important to us. I think there are a lot of older companies that just don’t care. They’re selling a product but they’re not... We’re trying to sell performance and that’s important.”

STEMscopes regulates the performance by adding a button on every single page inside their curriculum so a teacher can touch the button to give them input. Johnson knows feedback is important as well as knowing that students are showing good, strong performance in their assessments. “It’s called ‘the feedback’ and that feedback button is important. Last year we made over 5,000 improvements, enhancements, and changes to our curriculum, based on the teacher feedback that we received,” explains Johnson. “It’s huge. I don’t know of anyone else that does that. We spent a couple of million dollars last year just on that, making those enhancements based on feedback.”

Johnson shared another example of servicing their districts. Last year, STEMscopes was four years into an eight-year adoption program for Texas. Everybody bought their materials. The state of Texas made some modifications. They called it ‘streamlining the standards.’ Every one of the other providers of science materials in Texas had already produced their textbook. The providers couldn’t change their books because they are not going to print a new book, so they were stuck. STEMscopes went above and beyond while others didn’t know what to do about it. “But not with us. We took a number of months and went back to the drawing board and we modified our curriculum to be realigned with the new standards. We provided to all of our customers a new curriculum for free,” explained Johnson. “And that really made a big difference in Texas. And I know our customers appreciate it.”

But there is a challenge in delivering STEMscopes to teachers; Teacher readiness to use digital curriculum and materials. “I think there’s still a lot of training that needs to occur with teachers. We see it all the time where people say, ‘I’d like to use digital. I’m just not sure. I know what to do with a book. I don’t know what to do with digital. I’m not sure how to use it in my classroom.’” explains Johnson.

“And it’s not hard, but it’s a major change for a number of people. It’s not how old

you are, it's just that it's something new for a lot of people. Using technology products in the classroom is fairly new for a lot of people. So that's our biggest challenge. Leaving the mindset of the book and coming over to the digital world.”

Despite these challenges, the future looks bright. STEMscopes system is in place to translate the curriculum into any language. Each digital page has a button. Touching the button turns the page into Spanish or English. There are plans to add more languages. “We just launched an international strategy. We’re partnering with CNN to go outside of the United States to other countries. So, we’ll have **STEMscopes powered by CNN**, and we’re already engaged in conversations with a number of distributors in other countries,” explains Johnson.