

Don Tabat, a seasoned middle school teacher in Mocksville, North Carolina, knows that getting and keeping students interested in science is not always easy. While some students have a natural curiosity, they do not always have time to develop a long-term interest in the subject.

"Our curriculum standards are a mile wide and an inch deep," Tabat says. "That really makes it tough for the kids. It's like you're moving them through so fast that they don't really get a grasp on something they might actually enjoy--or they're past it before they can figure out if they'd enjoy it."

In North Carolina, as in the nation, fewer students are studying or working the areas of science, technology, engineering or math (STEM). But Tabat wanted his students to develop an interest in science so they would be more prepared for emerging technologies. He found, however, that most school assignments and field trips do not replicate the stimulation of real-life scientific research. To provide that essential experience, Tabat takes his class to the Contemporary Science Center every year.

### Real Life Lab Experience Ignites Interest, Engages Students

The Contemporary Science Center (CSC), a virtual, state of the art learning center in Durham, North Carolina, gives middle and high school students a real-life laboratory experience through one day field experiments that replicate authentic problems companies are solving with science. By providing this experience, says founder Pamela Blizzard, the CSC can excite students and encourage them to pursue STEM majors and careers.

Since in 2004, the CSC has collaborated with life science companies in North Carolina to offer field studies in areas such as biotechnology, physics, chemistry and statistics. Over 3000 students have visited the CSC from all over North Carolina for this experience.

In each field study, students are given a real problem, such as determining the best way to deliver a medication for cystic fibrosis, or figuring out how to manipulate genes in plant embryos to prevent insect damage. They conduct lab procedures that mimic the company's own research, then discuss their results and make final recommendations.

### Long Lasting Results from Field Study Visit

Because the field studies closely tie in with the North Carolina curriculum, once students return to school, they can make connections between what they learned in the labs and in their course material. Even better, Tabat says, students who attend the CSC return to school with more than an increased knowledge of genetic engineering.

"The greater concept is that there are a lot of different jobs out there," Tabat says. "Students can see what is available them; the types of things scientists do and can do in the private sector."

The field studies offer an additional long-term benefit, Blizzard adds, because the inquiry-based case studies allow students a chance to enhance their higher order thinking skills, such as brain storming, problem solving, working in teams and even dealing with failure.

Surprisingly, Tabat says, the students who may have benefitted most from the field trips were the ones who struggled academically. "Being able to do the hands on really kindled their interest," he said.

"It's just an opportunity the kids don't have very often," Tabat says. "It's an opportunity to get their kids out of the classroom and into a real lab setting where they can spend all day working on a real science problem and they can see the process. There's no rush to get it done, they get a chance to ask questions of the instructor who is a qualified scientist, they get to use real scientific equipment that most middle schools or high schools can't afford."

### CHALLENGE

Engage middle students in long-term interest in science.

### SOLUTION

The Contemporary Science Center, a virtual lab, provides authentic scientific research opportunities in one-day field studies.

### BENEFIT

Students conduct authentic research and learn about careers in science, technology, engineering and math, opening the doors to long-term interest in science and technology majors and careers.



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*Don Tabat, 8<sup>th</sup> grade science teacher, North Davie Middle School*

### Non-Profit Partnership Information

The Contemporary Science Center ([contemporarysciencecenter.org](http://contemporarysciencecenter.org)) was founded to change the way that teenagers view science in North