

Innovations in Science and Technology

Travis James teaches Advanced Career Innovations in Science and Technology at **Pocahontas High School** in **Pocahontas, Arkansas**. James is an avid proponent of this Advanced Career curriculum. He’s seen firsthand how it can transform one’s practice. “AC has changed me considerably as a teacher. Originally, I was a biology teacher. I stood up and lectured — stand and deliver.” James explained that he spent most of his time simply covering topics, barely scratching the surface of the content.

“I no longer try to pour information into them [his students] and have it regurgitated back to me. I have given them ownership. I have given them the tools to find out where the information is, how to think through it and find the correct materials they need to read. I have taught them to be self-reliant.”

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As a result, AC has changed the way students learn. Instead of memorizing facts for an exam, the students engage in project-based learning assignments that give them opportunities to explore and analyze concepts.

Realizing the Value of Academics Through AC

James believes the AC curriculum helps students understand the true value of literacy and mathematics. Instead of just reading and solving problems, students learn the importance of the problems and the implications for their work. “In AC they learn why literacy is important, because they need to document everything they do. They learn to use math to make predictions. AC gives them an application or a vision of how and where math and literacy are used in real-world situations and why they need it.”

Preparing Students for Postsecondary Studies and Careers

James’ prime reason for supporting the AC curriculum is that it prepares students for postsecondary studies and careers. “They get real-world experiences and learn to solve real-world problems. Employers want employees who can think for themselves and do their own problem solving. This class teaches students that there is no one way of doing something. They think of how to solve problems on their own and then come together as a team. They enjoy collaboratively examining the strengths and weaknesses of their approaches and arguments.”

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Shift From Teacher-Centered to Student-Centered Learning

James has seen the ownership of learning in his class shift from him to his students. “The ownership is real and they push each other. They want to perform well. They know they need to bring their work up to another level. They do not call each other out, but understand their responsibilities and don’t want to let each other down. They bring out the best in each other.”

James said the results of using the AC curriculum have been astonishing. “I have seen my students become more confident in their abilities. When they learn how to think on their own and learn that making a mistake is not a bad thing, because they’re growing and learning from those mistakes, they become autonomous problem solvers.”

Finding a Career Niche

James believes the curriculum is critical to providing students the skills they need to be successful after high school.

“I have a student who couldn’t see himself going to college or even finding a science and technology job he could obtain. His home life isn’t very good. Once we got into 3D Drawing, he took off and could really perform the tasks. He had a real turnaround. He found a career opportunity and a passion for this kind of work that he never knew existed. He did not know that this was even an option for him. He didn’t know that he could receive a certificate from the local community college.”

Consequently that student found a niche for himself in the community. Because of AC, he is now working toward the CNC Tool and Dye Specialist Certificate and will have the opportunity to pursue a viable career. Without AC, his options post high school were likely limited.

Travis James