Intel® Teach Elements: Inquiry in the Science Classroom

Case Study with Chris Delaney-Haynes

Chris Delaney-Haynes teaches in the small ski town of Telluride, Colorado, in a school district of approximately 730 students. She has 26 years of teaching experience in math, science, and technology, and served her school district as the technology director for 12 years. Even with her wealth of knowledge and experience, Chris is enthusiastic about keeping up with technology trends and current research about best teaching practices.

In her current role as a curriculum and technology coach, Chris has been taking professional development courses through eNetColorado to better support her teachers. In addition to *Inquiry in the Science Classroom*, she has also participated in *Collaboration in the Digital Classroom*, *Assessment in 21st Century Classrooms*, and most recently *Designing Blended Learning*. She has taken several other online courses, earned her Master's degree online, and feels comfortable with participating in virtual environments.

Facilitation

Chris participated in the Science Inquiry course online through a learning management system and asynchronous communication tools. Her blended learning experience included online web conferencing components, interactive tutorials, exercises, individual work, and facilitated discussions. The primary means of communication between course participants was the online discussion forum, through which Chris responded to weekly module questions posted by the moderator. She was also required to respond to at least two or three other cohorts within the group each week.

According to Chris, these discussions were one of the most positive experiences within the course. She notes, "The online discussions build a learning community. It allows you to make a connection with people from different perspectives, which enriches the learning so much more." She also explains that the moderator's guidelines for discussion made an impact. The moderator who facilitated her Science Inquiry course encouraged participants to expand on their ideas, asked thought-provoking questions, and held participants to a high standard of discourse where opinions were valued and backed by research from course readings.

In addition to the online discussion, Chris also participated in three live webinars during the course to discuss topics relevant to the readings and collaborate through shared experiences with the group. Chris uploaded her Action Plan weekly, a course requirement, and frequently viewed her peers' work to gain valuable information about how the course ideas were being translated into action.

Although the Intel® Teach Elements courses are available as a self-paced course for individuals online, Chris prefers the collaborative learning environment that is cultured through the online courses

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facilitated through eNetColorado. She explains, “It is a rare person that can pace themselves and stick with an online course on their own. The social piece is critical.”

Outcomes

The Science Inquiry course expanded the way that Chris views inquiry-based learning. Although the course was primarily focused on scientific inquiry, she immediately saw the application of inquiry-based instruction across all core subjects. She explains, “I realized that inquiry is not limited to science, but can be applied across all grade levels and subjects. It’s about asking good questions, providing wait time, giving students more autonomy, and responding to what kids bring to you rather than telling them what to do.”

The course also helped Chris understand that incorporating inquiry is not about reinventing your curriculum. Rather, it is a series of small, mindful changes that can be applied to your existing instruction. Looking back on her days as a classroom teacher, she states, “I realized that I used to do a lot of guided activities. I was a very hands-on teacher that did a lot of discovery in math and science. With a few tweaks, I could have had much more inquiry. Now I have a better idea of how to add inquiry into existing instruction.”

According to Chris, one of the most influential components of the course was the Action Plan. She benefitted from viewing the sample Action Plans, as well as the Action Plans posted by other participants in the course, to understand how teachers plan to include inquiry-based strategies into their classrooms. She was able to provide feedback and revise her own Action Plan based on the feedback from her cohorts.

Another positive experience for Chris came from the course resource files and check-for-understanding quizzes. She was able to take the inquiry resources, such as rubrics and checklists, and show them to teachers the very next day. In addition, she states that the quiz questions built into the course helped to confirm and strengthen her understanding about what she was reading.

Chris came away from the course with a deeper understanding about inquiry. She explains, “You don’t have to reinvent the wheel. Just keep things in mind, like science processing skills and habits of mind, to make sure that kids get practice with these skills. It’s a dynamic way of thinking, not overloading the students with direction. It can be as simple as asking a different type of question at the beginning of the lesson, or just changing your directions.” She had a very positive experience as a participant in the Science Inquiry course, and encourages every teacher she meets to enroll in the Intel® Elements Courses through eNetColorado. She hopes to inspire other teachers to continue the learning process, staying on top of research in education.

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