

Alicia Markova Search4STEM User Case

Alicia is the STEM Curriculum Director, K-12, in a small urban community. This community is one of the few in the country which have adopted an integrated approach to teaching and learning STEM. The schools are stressing hands-on and experiential learning activities. Recently, in a truly revolutionary phenomenon for this community, the schools decided to provide iPads to all students as the result of a large grant from a global business headquartered here, one of the reasons the community is on the cutting edge these days.

There are three secondary (one a technical vocational high school), one large middle and five elementary schools in the district. It is a middle and lower income community, with only 50% of students going on to some form of higher education. The students fall into all the major population groups: black, Hispanic, white and Asian. Many parents have gotten the message that STEM is vital to their children's future survival, if not their success. They encourage their children to study STEM because they see the need and the schools are responding.

The state has recently mandated a STEM core requirement of four years of science (at least one lab science), four years of mathematics, a year of Engineering and a year of technology. The town has explored, under Alicia's direction, curriculum directions and programs, and has adopted a STEM curriculum PK-12. She wants to infuse into the STEM curriculum projects and programs that use digital textbooks and other online resources.

Alicia's challenge is finding that information. She doesn't simply want a list of what is available. She wants to know how the digital textbooks and online materials are being integrated into the schools. She is interested in seeing an evaluation of those strategies and she wants to speak with educators who have used this methodology.

There is no current STEM inventory in the state department of education, to some extent because using the iPads and digital content and textbooks is so new.

The town is a member of an educational collaborative which provides school services including curriculum and professional development. She calls the ED of the collaborative and learns that there is a recently launched initiative called 'Search4STEM' where one can find personalized and contextualized information about STEM programs and resources.

She gathers the school district's Instructional Technology Director, the Informational Technology Director and the principals together to explore this new opportunity. She wants this to be a collaborative review and decision making process.

Search4STEM opens with a welcoming screen which describes how to use the system. A page then appears which requests personal/professional information about Alicia which will inform and tailor any search in the future. It asks for a description of her role, her academic background and why she is interested in STEM.

The query then asks what she is exploring at this time... There are many features she can check off: Grade levels for the intervention, STEM subject(s), Description of elements (for example, whether the program is hands-on, project based, teacher centered, only web based, hybrid, etc.), Contact Information, Evaluation Information, cost, and testimony from previous users. Videos of STEM professionals describing their careers and preparation are also available.

The group finds two possibilities and agrees to let Alicia make the contact and convene the group with the research she collects.