

Proposal Abstract

The proposed 3 year Learning Technology project in the Mt. Vernon City School District focuses on a high need area in both Nelson Mandela High School and in Thornton High School. Too many students are not successfully completing science and mathematics courses required for graduation. More specifically, the Integrated Algebra and Living Environment courses are the focus of this project. Both are required courses for high school students and generally offered in grade nine. The district will adopt a three-pronged approach to enhancing instruction through technology in these two core courses. One involves providing the participating teachers and their students with instructional technologies (IT) and delivering both initial training and ongoing support for teachers as they integrate these technologies into their professional life and classroom practice. The second major component of the project will be an extended set of staff development activities that includes online activities and resources as well as face-to-face teacher development meetings. The district will adopt the TPACK model as a foundation for the staff development. TPACK is short for Technology, Pedagogy and Content Knowledge (Koehler & Mishra, 2008; Mishra & Koehler, 2006). The model is based on the assumption that teacher development is critical to successful transformation of teaching and learning and that teacher development work must include increased expertise in the technologies of teaching and learning, effective and appropriate pedagogies, enhanced knowledge of the content to be taught, and the successful integration of those three simple knowledge domains into more complex and integrative domains of knowledge and expertise. The third component of the project will be a set of online resources and tools designed for ease of use and applicability to teaching and learning. The project staff will be led by the district's Director of Technology who will develop a comprehensive web site for the project and will help teachers use that web site and add resources and resource links they find themselves. Teachers will learn to create their own web sites, organized around a course which will be accessible by students and parents. Research is clear that simply implementing discrete technologies or processes to address different elements of the teaching and learning process does not create an effective instructional improvement system since effective instructional improvement is based on connectedness and synergy. Using the Technological Pedagogical Content Knowledge (TPACK) model for professional development, the project will provide for technical, content area, and pedagogical support and training for the 20-25 teachers involved in the project so they are better equipped to enable, motivate, and inspire each year the 700 students who will use technology indispensably in their courses. The TPACK system connects learning, assessment, teaching, and professional learning. Project activities will use technology as a bridge to enable the integration of both the software-driven process, with other student engagement tools in a platform that will provide meaningful data to teachers, instructional leaders, and administrators. Teachers will form a community of practice facilitated by direct interaction with each other and area experts as well as virtual sharing using web 2.0 collaborative tools. Transformational change in teaching practice can only be achieved with a holistic understanding of students' needs and methods of addressing those needs. The project will be designed to replicate the components of the ARRA defined instructional system. These components include instructional planning; gathering student information through formative assessments, interim assessments, and looking at student work; rapid-time reporting and analysis for data-informed decision-making; and professional development that is both job-embedded and on-demand through web-based platform supported by strong instructional leadership. The district will provide professional development in Smartboard technology to teachers in Emanuel Children's Mission, a participating non-public school.