Resources needed for addressing common core standards in mathematics and language arts and next generation science standards.


Summary: There is a vital need in the mathematics and science teaching and learning community at the secondary school level for assistance for teachers in adapting curricular materials to meet the many district, state, and national demands and to facilitate high-quality learning of students and their ability to transfer this learning and apply it as they move forward to careers. This paper describes a set of resources in the form of Teacher Guides, which would teach educators how to keep up with the high tech, fast-paced world by allowing them to change existing teaching resources faster than new and updated curricula become commercially available. Teacher learning in the Teacher Guides would not be limited to a single educational practice. For example, Teacher Guides we anticipate creating would capitalize on the relationships and convergences found in CCSS-M practices, CCSS-LA student portraits, and NGSS science and engineering practices.

Classification: D30 B70 U30

Keywords: STEM education; reform of mathematics education; curricula adaptation; curriculum development; teacher guidance; innovation; educational media; common core state standards; metacognition; self-directed learning; literacy; communication; inquiry-based teaching; cooperative learning; problem-based learning; problem posing; project-based learning; integrating multiple adaptations; educational objectives; goals of mathematics education; lesson planning; teacher education

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