

*Expanding the Science and Literacy Curricular Space: The GlobalEd II Project*  
*RFA Topic: Educational Technology Goal 2, Development*  
*Project Summary*

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There is no doubt that recent policy initiatives across local, state and national levels have placed increased pressure on schools to improve student performance in the domains of literacy, mathematics and science. Concurrent with the demands for accountability, academic standards in these areas have also expanded, requiring teachers to cover more material in a curricular space that had not grown commensurately. As a direct consequence, many school districts redesignated instructional time from other disciplines, such as social studies, in order to dedicate more time to subjects that are assessed through state-mandated, high stakes standardized tests (Knighton, 2003; Manzo, 2005; Marshak, 2003). However, it has been argued that because of the interdisciplinary nature of subjects like social studies, the shift in instructional time deprives students of the opportunity to ground their knowledge of literacy, math and science in areas that can demonstrate authentic applications, and promote learning outcomes. Problem-based learning researchers have illustrated for decades that leveraging interdisciplinary contexts as a venue to engage in real world problem solving can deepen students' understanding, flexibility in application and transfer of knowledge (Bednar, Cunningham, Duffy, & Perry, 1992; Koschmann, Kelson, Feltovich, & Barrows, 1996). Recognizing this, the GlobalEd II Project utilizes educational technologies currently available in most eight-grade classrooms to build upon the interdisciplinary nature of social studies as an expanded curricular application aimed at increasing instructional time devoted to science and persuasive writing in a virtual environment. In order to address to accomplish this, the GlobalEd II project is focused around three specific goals. Specifically the GlobalEd II project will:

- Undertake the redesign and development of a interdisciplinary, technology-based simulation to specifically address state and national standards in persuasive writing and science, including all supplemental materials and teacher professional development;
- Pilot test the revised simulation, supplemental materials and teacher professional development to identify specific areas for revision;
- Field test the fully developed GlobalEd II curricular unit, including online teacher professional develop, in an effort to demonstrate feasibility and usability of GlobalEd II as a technology-based, instructional intervention addressing persuasive writing and science standards in 8<sup>th</sup> grade classrooms across three separate topics.

Using a rapid prototyping methodology, the GlobalEd II project will be implemented within 8<sup>th</sup> grade classrooms in both Connecticut and Chicago. Leveraging these two geographic regions will ensure that participating teachers and students emerge from urban, suburban and rural contexts and represent a diverse set of participants demographically. Across all implementations of the GlobalEd II simulations, approximately 28 teacher and their respective students (n~560) will engage in the intervention activities. This includes extensive teacher professional development and student interactions within the simulated global negotiation environment.

Mixed methodologies will be used to evaluate the feasibility, usability and impact of the GlobalEd II simulations. In early beta tests, formative evaluation techniques such as observation, interviews and surveys will be employed. In later field tests of the full set of simulation and all supplemental resources, pre/post data will be collected on self-efficacy, writing quality and science content knowledge.