Rural isolation in Oklahoma creates a problem for quality in all areas of Math and Science. The economic base with the exception of agriculture and its support is very weak. Very few math and science professionals are available except in the higher education community. This restricts the number that can serve as apprentices. There are no math or science clubs, no field trips because of the isolation and no internships. The internships and apprenticeships lie primarily in the agricultural arena. The area discussed in this paper covers 12000 square miles. The selected school districts are representative of the broader problem in rural Oklahoma of finding teachers and resources to provide a minimum math and science preparation for college. Involved school districts will range in size from 86 to 500 students K-12. Some districts cover as much as 800+ square miles. Newly qualified teachers usually avoid districts this small and this remote.

**A Pedagogical Basis for Change**

Howard Rheingold states “Skills of tomorrow will have little to do with how to operate computers and a great deal to do with how to use augmented intellects, enhanced communications and amplified imaginations.” Lave argues that learning as it normally occurs is a function of the activity, context and culture in which it occurs (i.e., it is situated). This is so relevant in math and science to the solving of complex problems. This contrasts with most classroom learning activities which involve knowledge which is abstract and out of context. Social interaction is a critical component of situated learning and in this project learners will become involved in a "community of practice" which embodies certain beliefs and behaviors to be acquired. As the beginner or newcomer moves from the periphery of this community to its center, they become more active and engaged within the culture and hence assume the role of expert or old-timer. This project will provide a starting set of old timers from the faculty and student population at Southwestern Oklahoma State University (SWOSU), and as participants progress the old-timers will step aside and let the new participants assume a more important role in the community. The important idea here is one of a cognitive apprenticeship. Cognitive apprenticeships support learning in a domain by enabling students to acquire, develop and use cognitive tools in authentic domain activity. Participants in this project will be immersed in situated learning experiences that will build a foundation on which to pursue math and science as a discipline.