

## 21<sup>st</sup> Century Workplace Skills in a 7<sup>th</sup> Grade Science Classroom

Sarah Galloway, Salt River Project  
Mesquite Junior High School, 7<sup>th</sup> Grade Science

**Introduction:** Rather than immersing themselves in the curriculum, my students are more interested in following a list of items in order to get a good grade. In addition, my students lack critical thinking skills and the ability to ask questions in small groups. Each person only sees their individual role instead of how they need to work together. This is alarming to me because students need to know how to work collaboratively in the workplace.

As a teacher intern at Salt River Project (SRP), I observed several employees solving problems and mentoring each other. SRP sponsors two major programs that create this atmosphere: a mentoring program and a rotator program for engineers and analysts. After seeing these programs, I wanted to implement a program where students could better help each other communicate and ask good questions so that they are more prepared for science-related careers.

**Research Summary:** I investigated how using peer tutoring and science journals supported my 7<sup>th</sup> grade students' development of critical thinking questions. My project allowed me to investigate strategies where students could understand the curriculum better but also know how to communicate and interact positively with each other. Throughout the study, students tutored each other at least once a week for 15 minutes. Data was collected from one class of 30 students for 10 weeks during the end of the 2013-2014 school year.

**Findings:** At the conclusion of the study it was found that students valued friendship, smartness, patience, helpfulness, open-mindedness and the ability to problem solve while they participated in peer tutoring. Journaling using the Cornell-Note taking method proved to help students develop better questioning skills because it allowed them to reflect and form questions about what they were learning. Ninety-five percent of students who completed their journal entries experienced some level of growth in developing higher level questions. During the tutoring sessions, students that focused on discussing labs were able to form higher level questions than students who did not. Ninety-seven percent of students who participated in tutoring sessions experienced at least one level of growth, based on Bloom's taxonomy, in developing higher level questions.

**Action Plan:** This study helped me understand how my students develop interpersonal skills so that I can create an atmosphere where they feel comfortable asking questions. I recognize that students do not always understand how valuable asking questions are and need additional support through structured activities like peer tutoring to help them see their purpose. Journaling using the Cornell note-taking methods provides a way for students to reflect and develop higher level questioning skills. Activities such as labs encourage the development of higher level questioning skills.

Next year, I will emphasize interpersonal skills and give students opportunities to develop them in structured activities like peer tutoring. I will also provide multiple opportunities for students to ask questions and continue to teach the different types and levels of questions. I will continue to encourage students to reflect in their journals about what they have been learning. I will use more labs and other higher level thinking activities to teach material and to reinforce critical thinking skills.