



All Things Ignatian



Forge Ahead! Blacksmithing as a Means for Teaching Science, Art, and Job Skills

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Introduction:

Blackburn Alternative High School, a program of the Omaha Public Schools, in conjunction with Creighton University, the Loken Forge, and a grant from the Sherwood foundation has developed a service learning program for at-risk high school students. The goal of the project is to engage the students in experiential education that crosses the science and art curriculums. By teaching the students vocational skills as well as the science behind the metal arts they create a work of art that is displayed during our Open House every May.

This program was piloted with four students in the 2008/2009 school year with great success. The four students went to the Loken Forge located at the Hot Shops, at the corner of 13th and Nicholas, every Tuesday and Thursday for ten weeks and met with Master Blacksmiths Ron Loken and Elmo Diaz, the Master Blacksmith at the Loken Forge as well as Dr. Brian Henriksen, Assistant Professor at Creighton's Department of Pharmacy Sciences.

The funding for Art programs has lagged behind other subjects such as science and math. The creation of magnet schools where the focus is on application and skill-based learning puts art and creative expression even lower as a priority. Unfortunately, separating science and art at the K-12 level is commonplace. However, at the university level, there is a college of Arts and Sciences. This is not by mistake! As scientists and engineers develop new tools, artists use those tools to create the images and sculptures that inspire new generations of scientists. The application of science in the pursuit of art can be complimentary. Scientists will tell you that the color of light is based on wavelengths. Understanding waveforms and excitation energies can be rather advanced studies, yet those complex principles can be synthesized into one basic tool we find in the kindergarten classroom: a color wheel.



Where Are We Going:

Our program provides an experiential education opportunity, within a service learning program for at-risk students to learn skills, demonstrate their abilities, and share works of art with the Greater Omaha community. Utilizing the forge as an applied laboratory the students developed and shared an understanding of how accessible science and art can be to our daily lives.

With the gracious financial support from the AEA Office, Midwest Consortium for Higher Education and the gracious Sherwood foundation we have expanded our program from four students the first year to thirty-six students in the program in our third year. The Sherwood Foundation and Omaha Public Schools has asked us to write up a multi year proposal that will contain our current program and an advanced class.. Forge Ahead!



Assessment:

The students had to perform oral reflections at the end of each session and have their projects for the session inspected by the mentors. In addition, the students had written assessment at the end of the program. The students reflected on their progress personally, emotionally and technically. After the ten weeks of working at Loken Forge the students were able to explain science concepts that they had learned (such as oxidation, thermocycles, and radiant energy) and how they used those concepts to craft the projects they had on display at their art open-house. In addition to curricular outcomes the students reported increased confidence both personally and academically as well as earning a certificate of apprenticeship.

