Department of Energy Final Report
Grant #DE-FG03-93ER79187
PREP Program

The overall goal of the project partially funded by DOE was to encourage a greater number of the targeted high school students to acquire the necessary skills to succeed in rigorous college academic programs and to enter science-based disciplines.

These goals were met and the program was judged to be a success. Students participating in the program were involved in a rigorous daily academic program of formal instruction. Participants lived in the residence halls and participated in many aspects of college life, including planned recreational activities. Students were also involved in academic year activities to maintain a heightened awareness and interest in science-based fields.

Faculty participants in the program were generally enthusiastic about the results. Professor Lynn Deming of the New Mexico Tech Humanities Department commented about the students in her Technical Writing class: "...most of the students were able to accomplish all of the goals of my course to some degree; some students, of course, were more successful than others — mostly because they were more motivated and more diligent." Other faculty offered similar evaluations.

The program sought to provide students with the following “hands on” laboratory and field site learning experiences as well as minority role models — scientists and engineers, resident advisors, and tutors. There was also an emphasis on presentations from scientists and engineers, sessions focused on the college application process and test taking strategies for entrance exams. Finally, of course, there was work with study skills.

Curricular focal points were environmental science, supported by courses and labs in mathematics, technical writing, and chemistry. The 1994 summer program was the second year of the environmental science focus. Each of the courses were taught by a member of the New Mexico Tech faculty. Students had study sessions guided by New Mexico Tech student tutors.

Students chose topics relevant to New Mexico such as Coal Mining, Landfills, and Tribal Water Rights. They were required to collaborate on a paper and present posters for a science fair held at the end of the program. Students participated in a hands-on laboratory in mathematics working in small groups on real world problems, employing mathematical modeling which offered a much needed opportunity to experience first hand the relevancy of mathematics to their daily lives.

The English curriculum was based on developing skills in technical writing. Classroom activities included instruction in content, format, language, structure, organization, and development of specific
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writing assignments. Typical assignments included a research proposal, research techniques, laboratory reports about chemistry and geology labs, and collaboration on a ten page paper with three other students presented on the last day of class.

In summary, the program was judged to have succeeded in the overall goal of encouraging targeted precollege students to acquire the necessary skills to succeed in rigorous college academic programs and to enter science-based disciplines.