

MULTILINGUAL ASTRONAUTICAL TERMINOLOGY SYMPOSIUM (E8)  
Multilingual Astronautical Terminology (1)

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ASTRONOMY AND GEOLOGY VOCABULARY, I.E. "NASA WORDS" IN NATIVE AMERICAN  
LANGUAGES

**Abstract**

Language preservation is an issue of urgent concern to indigenous communities in the U.S. and Canada. The US Rosetta Project has developed a program in selected Native American communities in which contemporary STEM vocabulary is taught alongside the same vocabulary in an indigenous language. The program has been applied in Navajo, with extensions to Hopi, Ojibwe, and Hawaiian. NASA images and science are used and described in the native language, alongside both lay English, and scientific English. Additionally, science curriculum (geology/chemistry/botany/physics) elements drawn from the reservation itself, including geomorphology, geochemistry, soil physics, are included and discussed in the native language as much as possible — with their analogs in other planetary environments (such as Mars). The program began with a student defining 30 brand new Navajo words to describe what he called 'NASA' words, such as: cell phone, astronaut, space suit, computer, and planets that are not visible to the naked eye. Building the program beyond the Navajo, unique issues in each reservation community presented challenges, ranging from organizing Elder's Round Tables for discussion, and recording, of language with first speakers, to cultural awareness of clans and local variations in dialects and customs. Among the lessons learned, without official language certification board to recognize new words, nor to validate/confirm older words, usage can be problematic. Bilingual speakers who are knowledgeable about science are a necessity for program success. Many of these languages are truly being lost, as first speakers are elderly, and often simply cannot remember the words and concepts. Some languages are structured very differently from English. Use of NASA material and imagery can be shown to have a positive impact on accessibility of the overall STEM material for Native American kids, but it is clear that community involvement, and buy-in, is critical to success of the program. This means that the US Rosetta Project modified its goals for the program, language elements, and curriculum, to accommodate the programmatic desires of teachers in the district. In this paper we will report on these lessons learned, as well as metrics and successes associated with our most recent Summer Science Academy [2013], a four week summer course for middle school children. The US Rosetta Project is the NASA contribution to the International Rosetta Mission, a mission to study a comet led by the European Space Agency. Work on this project was supported by NASA at California Institute of Technology/Jet Propulsion Laboratory.