Two Methods to Describe the Vastness of Time: a Virtual Tour of the Geologic History of the El Paso/Juarez Region and a 12 Month Proportional Relation of this Paleohistory

Anthony M. Alvarez1, Eric J. Kappus2 and Erik M. Day1

1The University of Texas at El Paso, 500 W. University Ave, El Paso, TX, Texas, 79968, amalvarez3@utep.edu
2Southwest University, 1414 Geronimo Dr., El Paso, TX, Texas, 79925

Here we illustrate two methods to describe the vastness of time. Various field and technology-integrated approaches were used to construct videos illustrating the geology of a specific locations for the first group of practicing teachers. The videos were organized into a geo-spatial and chronologically organized virtual tour which collectively shared the billion year geologic story of the El Paso/Juarez region and described systematic tectonic and paleogeographic changes to North America through this time. Non-related flipped-based learning videos were provided for a second group of grant funded teachers part of the Texas Regional Collaborative; these videos were used for field trips to El Paso’s Great Unconformity. Instructional methods were designed to calculate the date local formations proportionally relate to a 12 month calendar with respect to all of Earth time. For example, how approximately five hundred million years of rock record went missing. The aim of both the class and the grant were three-part: 1) introduce emergent technologies, 2) focus on pedagogical tools and cultural significance, such as problem-based learning, flipped-based learning, constructionism, connectivism, and sense of place, and 3) teach Earth science based content in order for teachers to describe how local landforms are made and change over time. The combination of these concepts and tools will give future teachers the ability to apply new and emerging technologies into their classrooms and the ability to learn and teach geologic concepts such as the vastness of time, in order to integrate these concepts into in their future classrooms.

Keywords:

Virtual Tour, Geologic Time

2018 New Mexico Geological Society Annual Spring Meeting
April 13, 2018, Macey Center, New Mexico Tech campus, Socorro, NM
Online ISSN: 2834-5800