**Teacher Leadership Shiłgozhóó Institute**

**2023 Seminar Topics**

**Program Website:**

<https://in.nau.edu/ine/scusd-tlsi-san-carlos-apache-unified-school-district-teacher-leadership-shilgozhoo-institute/>

**Teacher Application:** <https://forms.gle/aU933taTK5SRptBi8>

**Applications Due: February 21, 2023**

Nature-based Learning

James Allen, PhD

Professor, Forestry

Students of all ages tend to respond positively to nature-based learning experiences, but many young people today are disconnected from nature and suffer from what has been called “Nature Deficit Disorder” (aka NDD). NDD, although not an officially recognized medical disorder, is nevertheless associated with health issues such as ADHD, obesity, poor academic achievement, and depression. In this seminar we will first introduce a variety of concepts such as NDD, plant blindness, and forest bathing. Directed readings from books and articles on these and related topics, followed by in-person or virtual discussions, will be part of the seminar. We will then review various approaches used to engage students in nature-based learning, with an emphasis on age-appropriate, inexpensive approaches that can be applied outdoors, ideally on or near school grounds. In addition to learning about the natural world, we will also discuss how curricula can be designed to improve overall student engagement, critical thinking, and/or social skills.

Writing a Research-based Personal Essay

Nicole Walker, PhD

Professor, English

Research-based personal essays weave together two threads of a particular topic. Often, one thread is comprised of a personal narrative. The other thread incorporates research. By situating the self in the story, the writer personalizes research, while making research more accessible through personal story. The woven essay allows for unique story telling because as one thread of the weave presses against the other, surprising nuances emerge. By letting the weave guide the writer, unpredicted insights occur. In this seminar, teachers will write their own woven essays as well as develop craft techniques to bring into their classrooms. The research-based personal essay is a particularly successful writing exercise because when the writers discover a personal investment, they delve more deeply into the research. Conversely, when the writers develop their research interests, they discover how it affects them personally, making the writing project more salient and significant. We will discuss how to help students create thoughtful and provocative stories about their research. While student’s writing may center around a person, a place, or even a particular species or a particular process, this seminar will show teachers how to help students develop narrative pull to draw readers into students’ work. We will explore the syntax and structure of essays, but we will also uncover core images and metaphors that will help student essays cohere.

Understanding our World through Geometric Reasoning

Shannon Guerrero, PhD

Professor of Mathematics Education

Geometry has sometimes been called the most influential branch of mathematics for its real-world connections to art, architecture, engineering, scientific modeling, graphics, and design. Geometric reasoning involves using abstract thinking to define, analyze, make arguments about, and form relationships between shapes and spatial reasoning. Students’ geometric understanding is based on the ability to use visualization, spatialization, and concrete representations and models for abstract mathematical concepts, which can serve as entry points to higher order mathematical thinking and reasoning. This seminar will use both measurement and geometry to explore foundational concepts and real-world connections related visualization, properties and relationships, dimensions, and problem solving. Building on their understanding of the uses and applications of geometry, geometric reasoning, and measurement to the world around them, teachers will develop a culturally relevant and mathematically meaningful unit that promotes geometric reasoning amongst their own students.