

Linking Southwest Heritage Through Archaeology



ANNUAL REPORT 2020-2021

The Linking Southwest Heritage Through Archaeology Program acknowledges the traditional lands of the Tohono O'odham on which the University of Arizona resides. As this program visits many other traditional tribal lands and sacred places, with gratitude, we honor the land itself and the stewards who have worked to protect it and respect the spaces we enter.

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Overview

Linking Southwest Heritage Through Archaeology (LSWHTA) is a non-formal, experiential education program for high school students and teachers in the Tucson area. It is a collaboration between the National Park Service (NPS) and the University of Arizona (UA). The LSWHTA participants include individuals with Indigenous/Native American or Hispanic heritage. LSWHTA applies an identity-focused, hands-on process to support Indigenous and Mexican-American high school students in exploring Southwest archaeology. Participants engage in the study of Southwest archaeology while visiting National Parks, museums, UA laboratories, archaeological field schools, and other heritage sites in Arizona.

Since 2019, the program has been operated through a collaboration between the School of Anthropology (SoA), PI Dr. Barbara Mills, and the College of Education (CoE), Dr. Sara Chavarria, Assistant Dean. The program was renamed Linking Southwest Heritage Through Archaeology (LSWHTA) in 2018 to reflect our participants' heritages, including the Indigenous heritage.

The National Park Service has funded this program for the past seven years to support its mission to develop stronger relationships with Native American and Latinx communities, increase engagement and visitation to National Parks, and support the diversity of NPS career paths. In addition to the UA and the NPS, critical LSWHTA program partners include local natural history and archaeology experts who offer additional opportunities for students to engage in archaeology, heritage, and the nature and the environment.

Institutional partners include the Archaeology of the Southwest, Arizona State Museum, Mission Garden-Friends of Tucson's Birthplace, Mission San Xavier del Bac, Pima County Community College Centre for Archaeological Field Training, and Tohono O'odham Cultural Center and Museum. This year, due to COVID-19, the National Park Service units visited differ from previous years. In 2020, The NPS sites visited included the Grand Canyon National Park, Montezuma Castle National Monument, Montezuma Well, Saguaro National Monument (West), Tumacácori National Historical Park, and Wupatki, Walnut Canyon, and Casa Grande Ruins National Monuments.

COVID Adaptations-Spring 2020

This report includes a description of our program, which began in 2020 but continued with the same cohort of students into 2021 due to the COVID outbreak and resulting closures stemming from COVID-19, which altered the program's course.

The 2020 program began with a cohort of 10 students and one counselor representing five high schools. Refer to Appendix A for the list of the initial student cohort. The outbreak of COVID-19 altered the course of the program in several ways. After two in-person events, the program switched to an online version in March 2020. From spring 2020 through summer 2021, online activities were held when in-person activities resumed.

During spring 2020, students participated in the DigVenture lesson series and met weekly with staff and fellow students to debrief and discuss the practice of archaeology. Online zoom session technology demonstrations and hands-on activities, including pottery coil creation, stone pendant making, and pottery design/painting. Arrangements were made to drop off materials, including clay, carving tools, art supplies, and archaeology books and resources. Although online

activities were discontinued during the summer of 2020, LSWHTA staff were available for the students through check-ins and care package deliveries. In addition, the archaeology graduate student began filming archaeological sites (open to the public) to showcase cultural resources to our students.

Life coaching sessions that covered topics such as online learning fatigue and college application processes were also offered to the students during the fall of 2020. In addition, the education graduate student began working on the project handbook, which captured LSWHTA learning activities and project protocols. The staff began planning a 2-week intensive in-person program held in June 2021.

During the spring of 2020, the archaeology graduate student began filming archaeological sites (open to the public) to showcase cultural resources to our students. The education graduate student worked on the project handbook, which captured LSWHTA learning activities and project protocols. The staff began planning a 2-week intensive in-person program to be held in June.

Spring 2021

Once in-person activities resumed, students received the schedule for the remaining part of the program. Out of the ten students, four students and the counselor could participate in the second-year (part 2) continuing activities. These activities are described in the following sections.

Funding and Expenditures

Funds have been used to pay for student workers (2 graduate students and two undergraduates in Fall and Spring 2020), one student for limited hours in summer 2020, and 2 graduate students in Fall 2020 and Spring 2021. Students were hired in anticipation of Covid-19 restrictions being lifted at any time. Other expenses included Spring 2020 iPads, vehicle rentals to transport students per the two in-person visits we had, and the purchase of 3 months worth of project snacks for the program. All of these snacks were equally divided and delivered to student homes when we saw that the closure would continue into May.

Per University of Arizona guidance, in Spring 2021, we began planning for a concentrated 2-week summer program (June 9-17) & putting in place new COVID-19 protocols to make it possible to travel and camp at NPS sites. Only infections getting worse would have changed this trajectory. Funds were used to pay for three part-time graduate student workers, one teacher stipend, three campsite rentals for three nights, three vehicle rentals, meals and snacks, tent/sleeping bag/sleeping pad rentals, and national park entry fees.

Participant Outcomes and Video Products

As in previous cohorts, the program provided students and teachers with iPads that were used to document their experiences and, for some, as their only means to connect to online sessions. In addition to the iPads, participants received art supplies, tools, and other materials required for participation in the online activities. Participants took pictures, created videos, recorded audio, and wrote notes during their experiences in the LSWHTA program. Participants later used media recorded on their iPads to create digital narratives focusing on the places, people, personal connections, careers of interest, and archeological practices.

National Conference Presentations

In addition, the staff (Chavarria, Knox, and Viola) submitted and presented at two conferences: the National Association for Multicultural Education (NAME) conference and the North American Association for Environmental Education (NAAEE) annual conference. A video of the presentation can be found here: <https://vimeo.com/454660842/c3b19783bd>.

The LSWTHA Framework and Goals

The LSWHTA program connects high school students and educators to the natural and cultural resources of the Southwest through an experiential twelve-week program. LSWHTA program extends the benefits of natural and cultural resources to students from communities with historically low levels of engagement with the NPS—parks, monuments, and career paths. The Linking Southwest Heritage through Archaeology (LSWHTA) Project is an experiential program that creates a space for students and educators to think critically about the intersectionality of their identities, the spaces they visit, and the experiences they cultivate.

The ArchP5 framework was developed to provide structure and address the multiple levels of reflection and connection we wanted to incorporate. These five components highlight the study of archaeology while encouraging participants to connect to their own and the region's heritage. The ArchP5 framework is composed of five themes: (1) archaeology as people, (2) archaeology as place, (3) archaeology as practice, (4) archaeology as personal, and (5) archaeology as a professional pathway. The five framework components are summarized below.

The framework communicates the goals and philosophies to the undergraduate and graduate staff, the archaeologists, and other professionals who interacted with the participants; it also reinforces the goals of a culturally responsive program informed by multicultural education and decolonizing pedagogy. The five LINCSS articulations also assisted the team and participants explore local heritage and archaeology through the lens of identity.

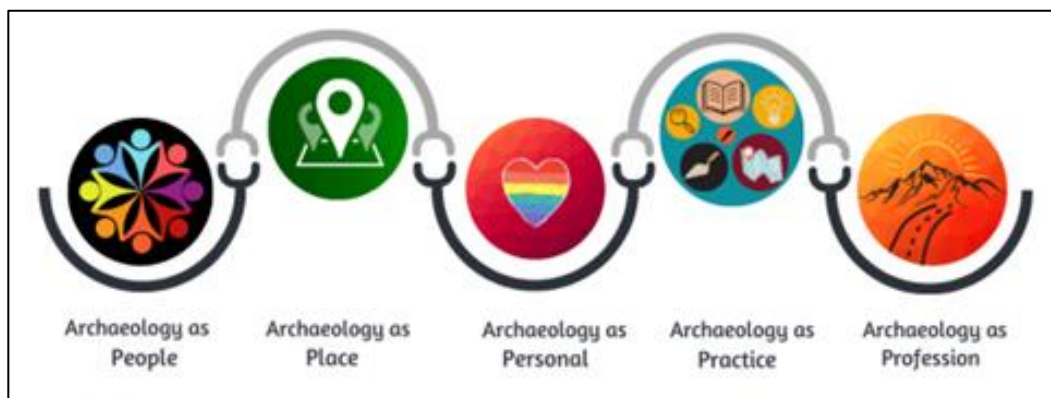


Figure 4: ArchP5 framework: Aligned with LINCSS framework.

Our ArchP5 framework guided our discussions, activities, field trips, and the students' culminating digital stories. It is flexible enough to expand archaeology and heritage studies into the interests and realities of the students beyond the traditional archaeological content. This framework helped participants and staff embed our activities and discussions into the lives and

lived experiences of our students and their communities and encouraged critical exploration of how ideas of peoples, cultures, and knowledge are constructed and defined. We enacted and communicated these ideas during or after field trips and lab, museum, and cultural site visits, thus providing structure for telling their final individual digital stories. In this way, the program embeds a critical lens within the discipline of archaeology by addressing the historical, ethical, and cultural influences related to the traditional practices associated with archaeology (Lotz-Sisitka et al., 2015; Rahm, 2021).

Table 1: ArchP5 Framework for the Linking Southwest Heritage Through Archaeology Program

Element	Critical Inquiry Questions
<i>People</i>	-What can you tell about the people who lived here/constructed this? -Who is telling the story of this place and those who lived here? -How does other's experience/knowledge connect to your identity/experience?
<i>Place</i>	-How do environmental conditions shape the story of this place? -What connections can you make to the places you or your family have inhabited?
<i>Personal</i>	-What are your personal/cultural experiences, beliefs, & values that could influence how you interpret this place and the people who lived here? -How does this story or place relate to you and your own experience?
<i>Practice</i>	-What role do archaeologists/scientists play in finding, conserving, & telling the story of the place? -Are there other ways/practices that can be used to interpret this site/place?
<i>Profession</i>	-What groups, disciplines, and communities are involved in telling this story? -What groups, disciplines, and professions are needed to tell this story accurately? -How do different "professions" work together to uncover and tell this story? -What skills and interests do you have that connect to cultural studies, archaeology, and history?

2021-2022 Program Design

Recruiting and Hiring Student Program Coordinators

In previous years, college students from the University of Arizona were recruited as interns to assist staff from the UA and EEE. This year as in 2019, a concerted effort was made to recruit staff with a Latinx or Indigenous identity, who had interest and/or experience in heritage students and archaeology, and who had some experience working with youth. Throughout the two years, there were six project staff members, which included undergraduate and graduate UA students who were all students.

Tony Viola, Stephen Molinares, Katelynne Nicole Johnson, and Perla Cota participated in the program from the start until early 2021. In May 2021, Omar Acuña and Alba Porras joined the team in May of 2021. Tony Viola, IV, is a member of the Pascua Yaqui Tribe of Arizona, a first-generation college student and Literacy, Learning, and Leadership major. Tony has years of mentoring and supporting underrepresented undergraduate students on campus. Stephen Molinares is of Yaqui heritage, a graduate student in the Applied Archaeology MA program in the School of Anthropology, and an experienced field archaeologist. Stephen was instrumental in sharing his knowledge relating to archaeology, focusing on the methods used in excavation, preservation, and interpretation. Furthermore, he was also able to share information on the histories and cultures of the people and places that participants visited. Alba Porras Hoyos is Mexican and an international graduate student in the Mental Health and Rehabilitation Counseling program. She graduated from York University in Toronto, Canada, with a BA in health sciences and has participated in several exchange programs around Asia, Canada, and

the US to learn about new cultures and traditions. Omar Solis Acuña is currently a senior majoring in biochemistry at the University of Arizona. Throughout his educational journey, he has participated in outreach education programs: Native Soar, Linking Southwest Heritage Through Archaeology, Center for Neuroscience Foundation, and NSURP. His future aspiration is to make resources for higher education more accessible in tribal communities throughout Arizona. Katelynne Nicole Johnson is an experiential educator at Isleta Pueblo Behavioral Health and a graduate student of archeology in the school of anthropology of the University of Arizona. Katelynne worked on lesson activities, videotaping, and field trips. Perla Rojas was a psychology major with a minor in Spanish. Perla helped codesigned learning activities and helped with the translation of learning materials.

Student coordinators work on tasks that relate to logistical planning, such as transportation, meals, technology, and outreach efforts to recruit students. The culmination of various skills, knowledge, and lived experiences paired with multiple salient identities created a welcoming and reflective space for participants to deepen their understanding of the field of archaeology and possible career and educational pathways and engage in reflection.

Recruiting High School Student Scholars and Educators

A core focus of this program is recruiting high school students from the greater Tucson area interested in the heritage, cultures, and histories of the Southwest. Likewise, educators with similar interests and connections are also recruited from various high schools to participate in the program. A preexisting network of contacts among educators and programs was crucial for successfully recruiting students. In addition, some connections involved previous participants in the program. The LSWTHA website and social media were also used to recruit students and promote the program.

The primary method of connecting to potential students involved connecting with prior LSWTHA counselors and teachers, visiting local high schools to speak with counselors, and presenting in classes. Through visits to the counselor's offices, team members recruited educators simultaneously while also asking counselors to further disseminate the information to students. In addition, flyers with details on the program were dispersed at all in-person locations and left with students and educators to share with others.

Email and flyers were shared with various programs and their respective coordinators, such as TRiO–Upward Bound, AVID, and multiple district-based Native American Education Programs, all of which worked with students throughout the Tucson Area. Students and educators were provided application deadlines to complete their packets. Included in the application requirements were a personal statement, a letter of support from a teacher or counselor, and a demographically oriented questionnaire. We conducted phone interviews with interested educators and counselors, and one counselor was selected. The entire LSWHTA team reviewed student applications holistically, ending with ten student participants chosen to be the 2020-2021 Southwest Archaeology Student Scholars.

COVID-19 and Online Interaction



As with many educational programs during Spring 2020, the LSWHTA in-person schedule and program activities were halted due to the onset of COVID-19. The LSWHTA staff postponed all events in March following our visit to the Southwest Archaeology Lab with the hopes of rescheduling later in the year. As COVID-19 continued, LSWHTA paused all remaining in-person activities and shifted to an online format, reflective of best practices recommended by school districts, the University of Arizona, and the Center for Disease Control,

During the remaining weeks of March, with everyone adjusting to social distancing and stay-at-home orders implemented, the LSWHTA staff explored online resources to maintain active engagement with the students. Program staff also created bags filled with snacks purchased before COVID-19, including school supplies, archaeology books, and games. In addition, staff coordinated a weekend delivery route to safely deliver bags to each student's home and have a quick contactless check-in.



Left: Dr. Sara Chavarria prepared drop-off kits that included snacks, school supplies, and games for each student. Right: The students' kits are ready to be delivered.

To initiate the transfer to online engagement, LSWHTA staff surveyed all students to determine if they had reliable access to the internet, technology (computers), software (zoom), and time availability. One student could not join due to the absence of reliable internet.

To keep students focused on archaeology and as connected as possible with their peers, LSWHTA staff incorporated a virtual field school made available through DigVentures (<https://digventures.com/>) called, How to do Archaeology. This program released weekly content on the process of participating in a European field school. We were able to register for this online course for free, an offer made by DigVentures in response to COVID-19. LSWHTA used this online program to structure the program during COVID-19 for the remainder of the semester combined with additional supplemental materials and dialogue focused on the Southwest.

Students also participated via zoom in technology demonstrations of traditional practice, pottery coil technology creation, stone pendant making, and pottery design/painting. Monthly Zoom sessions were held on Saturdays, and they were named "Saturday Enrichment" (SE) sessions. Participants received a monthly kit with the materials needed to participate in the activities. The Saturday sessions were scheduled from 10:00 am to 2:00 pm. Participants were offered opportunities to connect each session's content with the LSWHTA framework. Time was allotted to the discussion around linking the past to the present. In fall 2020, life coaching sessions were held online that focused on connection, coping strategies, and the college application process. Activities were designed to build community while we all navigated through the pandemic.

During the last online session of fall 2020, students were asked how the LSWHTA program could be of support. Their input was considered for planning the 2-week intensive in-person program schedule.



Group picture from the stone pendant making workshop

During the spring of 2020, the archaeology graduate student began filming archaeological sites (open to the public) to showcase cultural resources to our students. The education graduate student worked on the project handbook, which captured LSWHTA learning activities and project protocols. The staff began planning a 2-week intensive in-person program to be held in June.

Once in-person activities were allowed to resume, students received the schedule for the remaining part of the program. Unfortunately, out of the nine remaining students, seven said that they wanted to participate in all the remaining program activities, but out of those, three worked and were not able to take time off work for the trips and program activities to take place in June 2021. Four students and the counselor could join for the last part of the activities held in person. Refer to Appendix D for the list of the students that completed the program and Appendix B for the final 2020-2021 LSWHTA program schedule.

Site Visits & Activities

In addition to the online activities, the project resumed in-person activities with the same cohort of students in the Summer of 2021, with some of the events occurring before the shutdown in March 2020. The following is an overview of the tours, activities, lectures, and field trips that students participated in during the program that ran from spring 2020 to the summer of 2021. Appendix 5 includes a list of all 2020 students and educator participants. Appendix 6 provides the LSWHTA 2020-2021 Calendar "at a glance."

Program components included:

- 1) Field Trips to National Parks, Monuments, and Archeological Sites
- 2) Digital Storymaking and Photography
- 3) Team Building, Reflection, and meditation
- 4) Virtual online meetings, activities, art-making, and informal discussions

Southwest Archaeology Laboratory, University of Arizona



Field Trips to National Parks, Monuments, and Archeological Sites

LSWHTA participants visited three National Parks (Sahuaro West, Grand Canyon, and Tumacacori National Park) and 5 National Monuments (Montezuma Castle, Wupatki, Walnut Canyon, Sunset Crater, and Casa Grande National Monument). Additionally, this year participants visited the University Indian Ruins.

LSWHTA staff informed each respective Ranger of the program's relationship with the Park Service, the focus and experience of the group with archaeology and Hispanic and Indigenous heritage, and the program's objective of including a career component (Rangers were asked to share their own stories of how they got involved with NPS). LSWHTA staff also secured fee waivers in advance of each visit.

LSWHTA framework was discussed in every field site visit to help the students connect their field site experience and archaeology as people, place, practice, profession, and personal.

Emphasis was placed on exploring their own identity and heritage and exploring this year's themes: migration, connections, and resilience.

UA Labs and Workshops

The program has a long-standing and strong relationship with Zooarchaeology Lab (Arizona State Museum), Bioarchaeology lab, Southwest Archaeology Lab (School of Anthropology UofA), and Laboratory of tree-Ring Research, RadioCarbon Datin lab. This year, because of COVID, the mentioned labs were closed through the end of summer 2021. And although we had been collaborating with the labs each year due to COVID restrictions, it was only possible to visit the lab at the School of Anthropology in March 2020. Students also had the chance to participate in a Lithics lab run by Dr. Barbara Mills during the summer of 2021.

Southwest Archaeology Lab, Pottery/Ceramics, UA School of Anthropology. This was the first university laboratory scheduled during the program. This lab highlighted the importance of ceramic analysis to the field of archaeology. Dr. Barbara Mills led this activity and provided expert insight into all the questions students had about Southwest pottery and ceramics. Students focused on ceramic technology and analysis and were able to analyze pot shards and identify materials and methods of construction used during production.

Lithics Lab, UA School of Anthropology. This was the last university lab scheduled for the program and led by Dr. Barbara Mills. Although students could not visit the laboratory located at the School of Anthropology of the University of Arizona, Dr. Mills brought a series of different stones and other stone artifacts and highlighted the importance of studying and analyzing lithics for archaeologists. Students learned about projectile points, ground stone artifacts, waste flakes, stone tools, and ground stone analysis.

Digital Storymaking and Photography. As in previous years, all participants received iPads as tools for recording and documenting their activities. Participants downloaded applications (apps) to their iPad that allowed them to manage photos and videos, create movies on the iPads, and connect with other peers. These apps included iMovie, zoom, and Adobe Spark. Participants also used their iPads to create a Spark Page, which contained pictures and videos taken throughout the program, which would serve as their final presentation for the program. Students received training on creating an Adobe Spark Page presentation. A short tutorial on photography was provided during the summer of 2021.

Activities to help students engage through technology included Social Media challenges, complete reflective assignments, and the use of visuals and storytelling to capture their ideas and learning.

Team Building, Reflection, and Self-Care. Team building activities, as well as reflective exercises, took place from day one. Participants were challenged to integrate their knowledge, reflect on their experience, and find common denominators between their history and life and what they were experiencing. Discussion prompts and activities were designed around the LSWHTA framework and this year's themes' emphasis (resilience, migration, and connections). Students engaged in mini-challenges where they were asked to practice their acquired knowledge. Below is a brief list of the activities held during the 2020-2021 LSWHTA program. See Appendix C for a list of activities and meditation exercises.



Graduation celebratory photo.

The last activity was celebratory and included presentations of the participants' final productions. Utilizing Adobe Spark, all participants created a reflective, multimodal production consisting of text, images, video, and audio. Students and counselors closed out their participation by presenting their work in a collaborative zoom format. The distribution of certificates took place at the CoE on the last day of the program. Family members were invited to the Thursday zoom event to view presentations and celebrate the overall hard work of the participants. All the remaining participants attended the final presentation day.

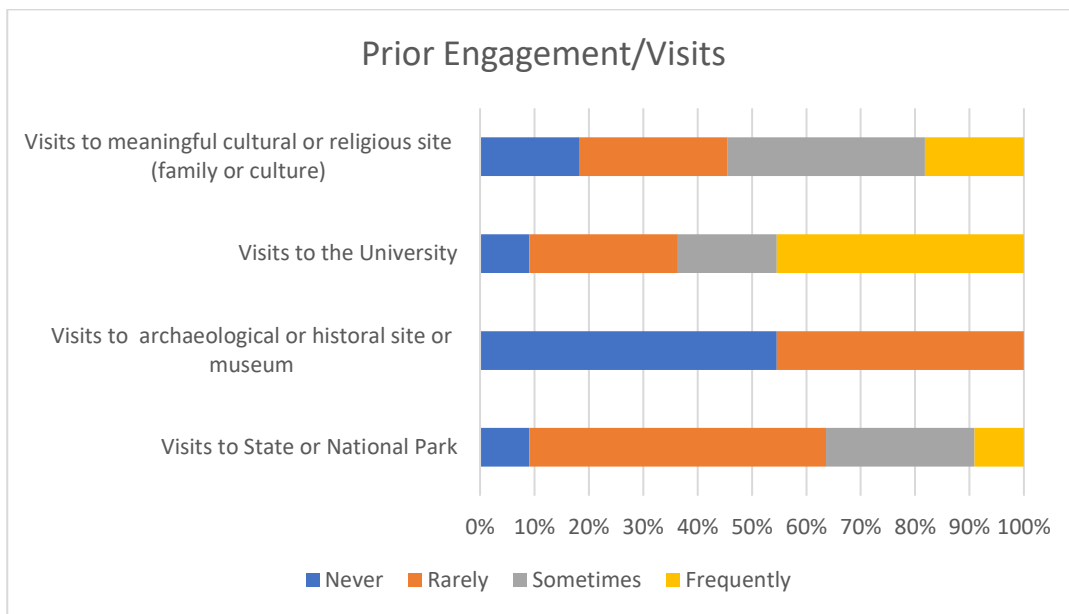
Program Evaluation

Program evaluation of the LSWHTA program consisted of pre and post-surveys administered to students during the first session of the program (March 2020) and a post-test that was only administered to the four remaining participants at the end of June 2021. This survey measures current levels of knowledge relating to the field of archaeology, heritage sites in the Southwest, and their prior engagement with NPS locations, cultural and community centers, museums, and the students were also asked to list possible future careers and occupations or fields of study of interest. Students were asked to reflect on their participation and rate their interest and satisfaction with locations and activities.

The summaries below are separated into pre-test survey results for frequency of prior experience visiting parks, museums, and other heritage sites.

Prior engagement/visitation to sites and parks

A majority of the students stated that they had rarely or never visited (63%) a state and national park previous to starting the program. There are three national parks within the county and several state parks where these students reside. These results reflect current studies showing people from communities of color are less likely to visit and engage in National Parks and outdoor recreation. Through their participation in LSWHTA, students from families and communities with low visitation levels could experience and engage with multiple National Parks Service locations throughout the State of Arizona. Approximately 50% of the LSWHTA stated that they had visited the University of Arizona campus before the program. However, several noted that this had been for sports events or other non-academic/educational purposes.

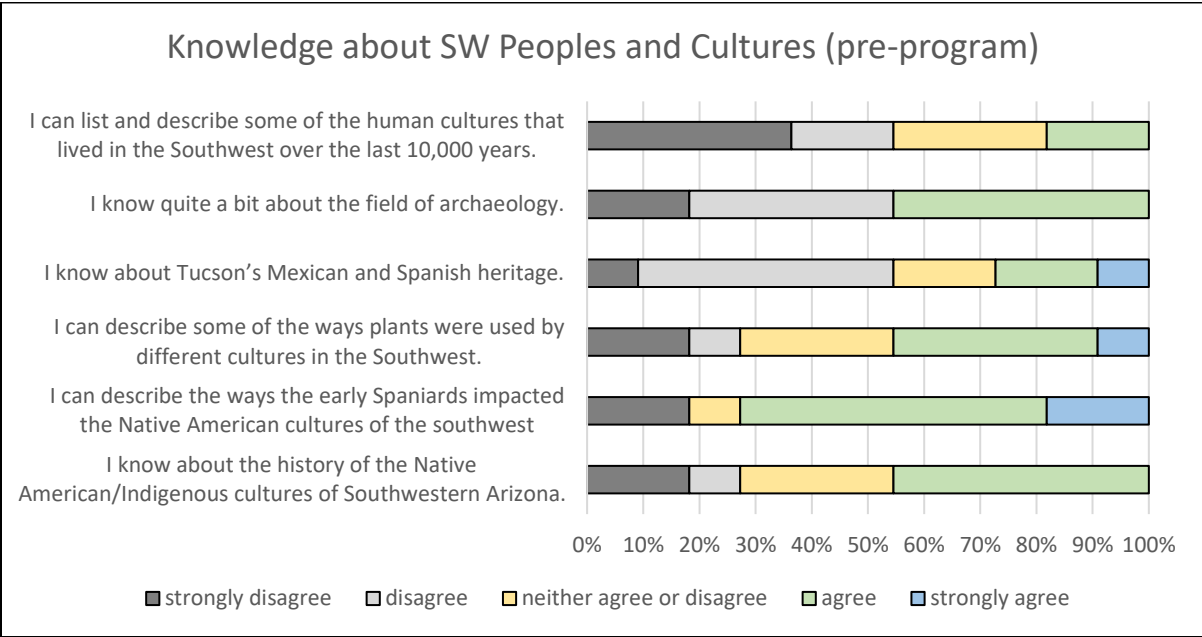


Knowledge about the Southwest Peoples and Cultures

With both the pre-test and post-test, we asked students five questions focusing on archaeology, culture, heritage, and history. We used the questions to measure the knowledge pre and post-program completion.

Questions:

- I know about the history of the Native American/Indigenous cultures of Southwestern Arizona.
- I can describe the ways the early Spaniards impacted the Native American cultures of the Southwest
- I can describe some of the ways plants were used by different cultures in the Southwest.
- I know about Tucson's Mexican and Spanish heritage.
- I know quite a bit about the field of archaeology.
- I can list and describe some of the human cultures that lived in the Southwest over the last 10,000 years.



Of the four students who completed the limited version of LSWTHA, all four agreed or strongly agreed with the statements related to knowledge of Southwest peoples and cultures.

Careers and Major Interests

On the pre-test survey, students were asked to list four possible careers or majors they were interested in pursuing. The eleven participants identified career paths such as STEM careers, counseling and education, forensics, and engineering. None of the students initially included archaeology, anthropology, or park service-related professions. We can see that students came into the program with diverse future aspirations from this data.

At the end of the program, all four remaining students listed archaeology, heritage studies (Latinx studies), or a park service career within their list of possible future careers. While students maintained some of their original majors and careers, the exposure to the many professions and career paths related to archaeology, heritage studies, and park service-related careers expanded their view of possible careers. Students entered the program with aspirations toward higher education and future occupations. Their participation in the program had a positive effect on broadening their horizons and exposing them to new possibilities.

Rating of Activities and Sites

During the post-test survey, the students rated the activities by category based on how interesting and engaging they were

The mean of each of the categories of activities is listed below. This is based on a 1-5 Likert scale.

- Overnight Camping Trip-Grand Canyon (5)
- Field Trips to National Monuments (5)
- Creating a Visual Personal Story (5)
- Ceramics Lab (5)
- Virtual Engagement: Clay-making, Online Archaeology Series, Pendant making (4.5)
- Wellness Activities (Meditation) (5)
- Culture and Identity Discussions and Sharing (5)

Overall, the students found each of the activities and travel experiences highly engaging and exciting, with slight variation in the types of activities.

Recommendations for Future Programming

Despite a difficult and stressful 18 months that caused stress, closures, and a lack of in-person connections, the program and program staff showed remarkable resilience, commitment, and creativity. In 2021, a new addition to the program was a focus on mindfulness and meditation. Led by one of our Graduate coordinators, Porrás Hoyos, participants were introduced to mindfulness and meditation throughout the 2021 activities.

Fortunately, despite the unanticipated COVID impacts, we could pivot to other tools and formats. This program was meant to be highly experiential and involved travel and outdoor interactions, which should not change. However, through our experiences adapting to online and distance activities, we have discovered some aspects that would provide greater flexibility to students and our professionals in the community. The project exposed participants to national parks' natural and cultural resources despite these obstacles. In addition, participants were able to articulate and reflect on the connections between the places they visited and their own lived experiences and heritage, and identity. Participants successfully integrated and reflected on the three main themes introduced this year--resilience, connection, and migration.

The following recommendations are based on our interactions and feedback from participants, discussions between LSWTHA staff, park service, and other site professionals.

Recommendations:

- Greater collaboration with guest presenters and park rangers to help shape site activities and introduce the ArcP5 Framework. Collaborating with presenters and park rangers ensures that activities are engaging and experiential.
- Develop contacts with local knowledge holders, community members, elders, and others in the areas we visit.
- Allow more time into the schedule for team building, reflection, discussion, and debriefing activities. Staff and participants also requested more time for creating the final digital narrative project during the trips and at base camp.
- Connect with Indigenous and Mexican, Latino/a, and Chicano archaeologists, anthropologists, and community leaders to present and accompany the students during visits.

APPENDIX A: Site Visits-National Parks and Monuments

Saguaro National Park (East)



Left: Students work as a team to create a miniature adobe oven. Right: The welcome sign at the Desert Research Learning Center

The LSWHTA participants had their first field trip to Saguaro National Park The Rincon Mountain District of Saguaro National Park—Sahuaro East ranges from 2,670 ft to 8,666 ft and contains six biotic communities. Students visited the Desert Research Learning Center (DRLC), which promotes the scientific understanding, protection, and conservation of Sonoran Desert Network parks. A park archaeologist discussed the center's work related to experimental research on preserving structures. Students hiked in the desert and created adobe brick ovens to experience the building materials of ancestral peoples and understand the work within the NPS. <https://www.nps.gov/sagu/index.htm>

University Indian Ruins

University Indian Ruins (UIR) site is in the eastern Tucson Basin and is owned by the University of Arizona's Department of Anthropology. It is a prime example of a classic period Hohokam platform mound archaeological site. This site was visited during the summer of 2021. Pottery sherds were examined and explained by Dr. Barbara Mills. This experiential knowledge was further tied to 3 themes: Connections, Migration, and Resilience. The different kinds of pottery present were connected to the "migration theme" resulting from migration and cultural exchange.



Montezuma Castle National Monument

Montezuma Castle is an archaeological site associated with the Sinagua archaeological culture. This National Monument consists of several cliff dwellings, the most iconic being the 20-room pueblo. Although "Castle A," a ~50-room pueblo that NPS archaeologists excavated in the 1930s, is also well known and part of the monument. Link to NPS site: <https://www.nps.gov/moca/index.htm>

Montezuma Well

Montezuma Well is a detached unit of Montezuma's Castle National Monument. It is a natural spring that was used as a water source. Montezuma Well is a separate unit of Montezuma's Castle National Monument. It is a natural spring that ancient peoples used as a water source, which has a water flow of around 1.5 million

gallons every day. It is associated with the Sinagua archaeological culture in the past; today, many tribes trace their affiliation to the site. Link to NPS site:

<https://www.nps.gov/moca/planyourvisit/exploring-montezuma-well.htm>.

Grand Canyon National Park



The Grand Canyon National Park is archaeologically significant in many ways. The first is that it has evidence of humans going back to the end of the last ice age, approximately 12,000 years ago, based on the presence of Clovis and Folsom projectile points. The Grand Canyon also has over 4,000 archaeological sites; most are Ancestral Puebloan sites. This number is expected to grow as NPS archaeologists have only surveyed three percent of the park. The remaining student cohort visited Grand Canyon NP during the summer of 2021.



Tusayan Ruins at Grand Canyon with Jason Nez (Fire archeologist at Grand Canyon National Park)

For all of the students, this was the first time visiting the Grand Canyon for most of the students. The trip included a rim walk, a tour of Tusayan Ruins, a visit to the Desert View Watchtower, touring Tusayan Ruin at the Grand Canyon, going to the Visitor Center and bookstore, and engaging in reflection while watching sunrise and sunset over the canyon. Jason Nez, NPS fire archaeologist and member of the Dine Nation, joined us for several hours during our trip. He shared his insights on managing historic sites in a respectful way of the archaeological science and the descendants of the peoples that inhabited the land. As a fire archaeologist, he also shared how important it was to see the land as a place that has hosted people for millennium; and approach historic sites by listening and learning from the ancestors and reminding us that history is alive. It was an important moment for the students and staff to hear a perspective from the people of these lands.

Another important activity was setting up their tents, setting up a campfire, and sharing stories. Link to NPS site: <https://www.nps.gov/grca/index.htm>

Wupatki National Monument

Wupatki is an archaeological site located near Flagstaff, Arizona. It is a site that shows aspects from many areas of the greater Southwest. It strongly resembles other Ancestral Puebloan sites in its use of masonry room blocks. Unusual for an Ancestral Pueblo site is the presence of a communal structure that archaeologists have interpreted as a ball court, which is similar in profile to the ballcourts used in the Hohokam world.

The visit to Wupatki included a lecture and discussion from the park ranger on site. The Park Ranger discussed the goal of the NPS to incorporate indigenous perspectives into their interpretive exhibits and understanding by working with the local tribes. Further discussions focused on how the architecture was built, the sources of water, and the various pathways within archaeology as a career. Link to NPS site: <https://www.nps.gov/wupa/index.htm>



Wupatki National Monument

Sunset Crater National Monument

Sunset Crater is located about 15 miles (25 km) northeast of Flagstaff, Arizona. It is named like this because the top cap of the volcano is an oxidized red spatter. This makes it appear bathed in the light of the sunset. Ancestral communities living in the area at the eruption were impacted when the crater erupted around 1085 AD. Archeological records indicate that the area was densely populated; the habitation sites and agricultural fields were abandoned due to the volcano eruption. For the population to thrive and survive, they moved a few kilometers away, where they adapted to the new environment.

The remaining students visited sunset Crater during the summer of 2021. The "Migration" theme was highlighted after this field site visit. Discussion started around how volcanic activities caused tribes to move to newer environments. The discussion was further linked to students sharing their own families' movement and migration experiences. Link to NPS site: <https://www.nps.gov/sucr/index.htm>

Walnut Canyon National Monument

Walnut Canyon is a National Monument, part of the National Park System, located 7.5 miles east of Flagstaff, Arizona. Walnut Canyon preserves some of the Southwest's earliest history. The remaining student cohort visited Walnut Canyon during the summer of 2021. The group discussed innovations and adaptations after seeing the dwellings along the cliffs. Link to NPS site: <https://www.nps.gov/waca/index.htm>

Tumacácori National Historic Park

Tumacácori National Historic Park is a historic mission southeast of Tucson. It is protected by the NPS, which has chosen to stabilize and not restore it. It is no longer used as a church. They also use the preservation process to work with Indigenous peoples and understand traditional methods and techniques of working with adobe. Students explored the grounds of this national monument to get an idea of the size of the area and its proximity to the Santa Cruz River. During this visit, the discussion and themes included the intersection of multiple cultures, food from the Americas and elsewhere around the world, the importance of various perspectives and voices in archaeology and historical tellings, and careers in historical interpretation and NPS. Link to NPS site: <https://www.nps.gov/tuma/index.htm>

Casa Grande Ruins National Monument



Casa Grande Ruins National Monument is an important site belonging to the Ancestral Sonoran Desert peoples. It is notable for having the best-preserved platform mound structure, the big house from which Casa Grande gets its name. It was also significant for its extensive irrigation system, highlighting the mastery of canal building. It was the first prehistoric and cultural reserve established in the United States and among the first declared National Monuments. While at the historic site, they visited the on-site museum and learned about the history and construction of the "Great House" by the Ancestral Sonoran Desert people. The trip concluded with a tour and lectures around the monument, including an area with many artifacts. Link to NPS <https://www.nps.gov/cagr/index.htm>

APPENDIX B: Historical, Cultural, & Educational Sites

In addition to visiting numerous National Parks and university laboratories, participants were also able to visit, engage with, and learn from locations with a strong cultural or heritage value. A brief overview of each site is provided below.

San Xavier Mission



San Xavier is a National Historic Landmark located 9 miles south of downtown Tucson, Arizona. It was founded by Father Eusebio Kino in 1700. San Xavier Mission is located on the Tohono O'odham Nation. San Xavier Mission, unlike Tumacácori, is still in use as a church and provides regular services, so it is continually maintained. Another significant and unique aspect of San Xavier is that the Tohono O'odham Nation manages it instead of the US government.

The remaining student cohort visited San Xavier during the summer of 2021. Participants were able to tour the grounds and reflected on a series of discussion questions' prompts related to the impact of the missionaries' arrival and the construction of the mission could have had on the people in the area, as well as Indigenous perspectives and how students related personally to images, messages, and the church itself. In addition, students observed the art and architecture and found symbols that merged Native American and European colonial imagery.

University of Arizona Labs & Lectures

The partnership with the UA allows for access to archaeology professors, laboratories, and associated resources, including the Arizona State Museum (ASM). Lab visits provide an overview of research conducted at that lab and a deeper discussion of the discipline and its role in archaeology. These visits are followed by a hands-on activity. In previous years LSWTHA students visited the Zooarchaeology Lab (Arizona State Museum), Bioarchaeology lab, UA Southwest Archaeology Lab, Laboratory of tree-Ring Research, and a radiocarbon dating lab. This year, because of COVID, the mentioned labs were closed through the end of summer

2021. Therefore, it was only possible to visit the lab at the School of Anthropology in March 2020 and a Lithics lab run by Dr. Barbara Mills during the summer of 2021.

Southwest Archaeology Lab, Pottery/Ceramics, School of Anthropology

This was the first university laboratory scheduled as a foundation for ceramic-based activities later in the program. This lab highlighted the importance of ceramic analysis to the field of archaeology. Students focused on ceramic technology and analysis, analyzed potshards, and identified materials and construction methods used during production.



Students learn about ceramic technology and analysis in the UA Southwest Archaeology Lab at the

Students also attended a zoom pottery-making workshop during the fall 2020 Saturday Enrichment (SE) sessions. The first session was dedicated to making pottery. Later, during the summer of 2021, students had the opportunity to paint and decorate their pottery vessels created during the fall 2020 SE session. Vessels were packed up for firing by Dr. Barbara Mills and later distributed to the students.



Lithics Lab, School of Anthropology

This was the last university lab scheduled for the program, it was led by Dr. Barbara Mills, and only the remaining part of the student cohort was able to participate in it. Although students were not able to visit the laboratory located at the School of Anthropology of the University of Arizona, Dr. Mills brought a series of different stones and other stone artifacts and highlighted the importance of the study and analysis of lithics for archaeologists. Students learned about projectile points, ground stone artifacts, waste flakes, stone tools, and ground stone analysis. Discussion around what type of stone artifacts are likely to be found in the Southwest and about the stone storage process and labeling was prompted.

Reflection and Team building Activities

Team building activities such as tent building challenge, group count to 20, and vote with your feet were held during the program. Some activities were designed to enable participants to get used to camping and to build interest and engagement with National Parks. They also serve to



help create bonds between participants in the program. Mindfulness exercises were incorporated to help the students feel grounded and ready for the day. Three meditations were created. Meditation for connecting with the higher self, meditation for connecting with nature, and meditation to connect with ancestors. Reflective activities were held in and out of the classroom. Students were challenged to reflect on their experiences and to reflect and share feelings about identity, heritage, nature, migration,

community, and resilience.

Appendix C: List of 2020 Participants

Name	High School
Aaron Z.*	Sunnyside High School
Alyssa P.*	Pueblo High School
Angelica A.	Cholla High School
Ethan G.	Cholla High School
Franchesca F.*	Pueblo High School
Isaiah H.*	Catalina High School
Kenny R.	Pima Partnership
Madelyn Y.	Pueblo High School
Manuel M.	Cholla High School
Santiago L.	Catalina High School
Alicia R. B.*	Counselor/Educator-Pueblo High School

*Participants during 2021

APPENDIX D: 2020 Schedule After the Outbreak of COVID-19

Date	LSWHTA Activity
March 2020	
3/7 (Saturday) 8:00 am - 5:00 pm	Kickoff at the University of Arizona, initial meeting with families & Saguaro National Park East.
3/11 (Wednesday) 3:30 pm - 6:00 pm	Southwest Ceramics Lab
COVID-19 Safety Restrictions began	
April 2020	
Week of April 20	Virtual Hang out, check-ins and "How to Archaeology" program started – "First Steps"
Week of April 27	Virtual Hang out, check-ins and "How to Archaeology" program – "Stratigraphy Starter"
May 2020	
Week of May 4	Virtual Hang out, check-ins, and "How to Archaeology" program – "In Context."
Week of May 11	Virtual Hang out, check-ins, and "How to Archaeology" program – "Selection Perfection."
Week of May 18	Virtual Hang out, check-ins, and "How to Archaeology" program – "Fabulous Finds"
Summer 2020	
Program Break	Contingency plan update and staff available for students.
Fall 2020	
September 19	Saturday Enrichment "Southwest Pottery"
October 17	Saturday Enrichment "Stone Pendant necklace" workshop
November 21	Saturday Enrichment "Life Coaching"

June 2021		
06/07/2021	8:00 – 3:00 pm	Testimonio Training, Tutorial on Photo taking and Adobe Spark. Individual Tent practice at the College of Education of the University of Arizona
06/08/2021	8:00 – 3:00 pm	University Indian Ruins visit and Group tent practice
06/09/2021	6:30 am -	Field trip to Montezuma Park, Montezuma Well, and Grand Canyon Trail walk
06/10/2021	All day	Tusayan Ruins visit, Angel Trail walk, Stargazing
06/11/2021	All day	Tour around Wupatki, Sunset crater, Wukoki, and Walnut Canyon
06/12/2021	8:00 – 4:00 pm	Trip back to Tucson
06/14/2021	8:00 – 3:00 pm	Tumacacori and San Xavier field trip visit
06/15/2021	8:00 – 3:00 pm	Casa Grande field trip visit and Lithics Lab
06/16/2021	8:00 – 3:00 pm	Work Day - Digital Story Design
06/17/2021 12:00pm	11:30am –	Graduation Day

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Education



SCHOOL OF
ANTHROPOLOGY



For more information, please visit our
website--swheritage.arizona.edu
or email swculture@email.arizona.edu

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