Journal of Archaeology and Education

Volume 6 | Issue 4 Article 1

November 2022

Tour de Fort: Creating and Evaluating Guided Archaeology Tours

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Recommended Citation

Clark Hunt, Laura K. Dr. and Thomin, Mike
2022 Tour de Fort: Creating and Evaluating Guided Archaeology Tours. *Journal of Archaeology and Education* 6
Available at: https://digitalcommons.library.umaine.edu/jae/vol6/iss4/1

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Abstract

Since 2011, the Florida Public Archaeology Network (FPAN) Coordinating Center office in Pensacola, Florida has partnered with the National Park Service staff at Gulf Islands National Seashore (GUIS) to develop and implement a public program called Tour de Fort. This guided bicycling tour was created by FPAN with the goal to promote public appreciation for the numerous terrestrial and underwater archaeological resources located within the Fort Pickens Area of GUIS. Tour de Fort has remained a popular and well attended program over the years. Based on public demand, other guided tours were developed using Tour de Fort as a model. However, until recently, the actual quality and impact of this public archaeology program on its participants was not well understood. This article examines how Tour de Fort and other guided archaeology tours provided by FPAN are organized; highlights the ways in which specific interpretative techniques are implemented; and provides the methods, results, and recommendations from a formal assessment that was conducted to measure its impact on participants.

Introduction

The Florida Public Archaeology Network is a statewide program of the University of West Florida. In this article, the authors examine one type of educational outreach program and assess its effectiveness in the field of public archaeology. While this case study examines one facet of the network, FPAN engages in all aspects of cultural heritage within the realm of public service. Kowalczyk (2016) notes that early working definitions of public archaeology were "previously seen solely as archaeology on behalf of the public, [but] began to also be equated with the idea of archaeology with the public." Researchers continue to refine the term public archaeology and explore its evolving best practices (Skeates et al. 2012). One of the ways that FPAN engages with the public is by creating programs with partners, in this case the National Park Service (NPS). FPAN's mission is to promote the protection and public appreciation of Florida's archaeological heritage through eight regional centers located throughout the state in order to cover all of Florida's sixty-seven counties. Currently each center is hosted by a university within the established region in which it operates. The FPAN headquarters, located in downtown Pensacola, features offices for both the Coordinating Center and Northwest Region staff, a public volunteer archaeology lab, classroom and conference space, and a visitor center called the Destination Archaeology Resource Center (Lees et al. 2015).

FPAN offers several public outreach programs throughout the year, including guided tours of archaeological sites at several state parks. Each region offers these programs approximately three to eight times a year depending on staffing. Tour de

Fort, the first archaeology guided tour developed in Northwest Florida, is offered at the Gulf Islands National Seashore's Fort Pickens Area. This program, created by FPAN's museum manager and Certified Interpretive Guide Mike Thomin, became the model for all guided tour programs developed for the Northwest Region. In 2017, Dr. Laura K. Clark Hunt, a researcher from the field of Library and Information Science and an expert in evaluation research for informal educational programs designed for the public (Clark 2016, 2017; Clark Hunt 2020), was hired by FPAN to conduct a formal assessment of one program specifically created to educate the public about heritage. Over the course of two years, Clark Hunt designed and conducted a case study of Tour de Fort, one of more than 50 programs ultimately examined during the period. The following article details the practical structure and educational strategies used to create the tour, and the results from a formal assessment designed to measure its effectiveness in an informal educational setting.

The goal of this project at the Fort Pickens Area was to collect data to assess the impacts of a public outreach program on the topic of cultural heritage preservation. Three research questions guided the study:

1. What benefit did participants receive from attending the program?
2. What impact did the program have on participants?
3. What were participants' perceptions of the program elements?

The authors of the following case study hope to paint a picture of an archaeology education program through the eyes of its participants.

Background and Literature Review

Public archaeology is a relatively new approach to preservation and cultural heritage that is still being established (Richardson and Almansa-Sanchez 2015). Since there is very little research on informal program evaluation in public archaeology, our goal is to add to the research base. According to La Belle, "Information education is the lifelong process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment" (La Belle 1982:161). Atalay defined this type of activity with the term "community archaeology." Community archaeology is engaging "communities in the archaeological process to increase archaeology's relevance" (Atalay 2012:28). While defining public archaeology education is still an ongoing process, Atalay (2012) established the importance of engaging the public for both the good of heritage and the good of society. For this article, public archaeology education will be defined as educational experiences that expose the general public to research techniques and knowledge, both tacit and spoken, common to the archaeological community of practice (Kowalczyk 2016).

According to King (2016), moving public archaeology to an outreach effort dates to the development of museum programs for children, but has seen a major surge in the last thirty years. Particularly within public archaeology education, “the new focus on heritage has reinforced the emphasis on our changing audiences and our relationship to them” (King 2016:417). Also, public education in archaeology has a vastly different theoretical and practical approach from those found in public archaeology. The biggest issue in these definitions is rooted in the shift from exclusivity to inclusivity with the public (King 2016).

Many archaeologists have shifted their focus over the last twenty years to public engagement, which is centered on public involvement, collaboration, and heritage management. Public participation in field research has created an interest in archaeology (Atalay 2012). As the discipline of archaeology plots a path toward a new destination focused more on heritage management and engagement with the community, new skills are necessary for success. Archaeologists need new methodologies and practices for reaching communities (Atalay 2012). The change in the current archaeological landscape stems from a need to develop long-term sustainable relationships with communities. It is up to the archaeologist to engage the public in a positive way to facilitate understanding and appreciation with respect to the profession and the work. It is important to be respectful of communities because archaeological work sometimes impacts a community, and people are more important than artifacts. Baram (2015) described public archaeology as the opportunity to create an environment where leaders in the community can appreciate and recognize heritage as a common element for bonding and civic pride that is woven into the social fabric of the community.

Looking into the future of the discipline, there are a few important factors to consider: “the issue of relevance, the question of audience, and concerns about benefits” (Atalay 2012:2). Non archaeologists tend to view archaeology as a luxury instead of a necessity. Unless archaeologists find a way to make their work relevant in the modern world, the modern world will find it easier and easier to proceed without archaeologists. Archaeology built on collaborative methods and practices that create theoretical and ethical guidelines in community archaeology has great potential. Archaeology can help communities solve problems in the nonacademic world. Communities care deeply about their own culture and history. As communities and archaeologists work together in advancing archaeological research, both parties benefit.

For this case study, an interdisciplinary approach to survey questions was used. The study included aspects of Self-Determination Theory (SDT) and rigorous educational standards and sought to gauge the outreach program’s impact from the perspective of the participants. As Atalay points out, “The methodology of community-based research is a crucial step forward for archaeology. It moves concerns about sustainable, reciprocal research with communities from theory to practice” (2012:18).

Thus, the participant feedback enables us to better understand the effectiveness of this program and improve it if needed.

Self-Determination Theory

Self-determination theory describes human motivation and addresses basic human experiences such as self-regulation, universal psychological needs, life goals and aspirations, energy and vitality, and "the impact of social environments, affect, behavior, and well-being" (Deci and Ryan 2008:182). Motivation for participants attending a cultural heritage program will be composed of extrinsic and intrinsic motivations found on this continuum. SDT is rooted in motivation instead of cognition and is often evidenced as a need to control the environment (Deci and Ryan 1985). The origins of intrinsic motivation are rooted in the human need for competence, challenge, and control (Clark 2016). The study of self-determination has led to examinations of human behaviors and experiences that have pointed to the importance of understanding human experiences through intrinsic and extrinsic motivation.

SDT is a humanistic orientation that is rooted in rigorous quantitative and experimental research (Sheldon et al. 2003). Positive assumptions are made about human nature and propensities. This theory attempts to explain how negative outcomes can accrue, explaining that self-determination is built on the assumption that people have three psychological needs that must be met to thrive: autonomy, competence, and relatedness (Figure 1). The theory operates on a continuum and is a dynamic process. The self-determination continuum ranges from amotivation, which is completely lacking in any motivation, to intrinsic motivation, which is pleasurable behavior (Gagné and Deci 2005). As Deci and Ryan note, "To be self-determining with respect to outcomes, people must have control over those outcomes, and not being able to control outcomes—which precludes self-determination—will have negative consequences" (1985:37). Self-determination holds true to the ideal that all individuals have innate, natural, and constructive tendencies to develop a sense of self.

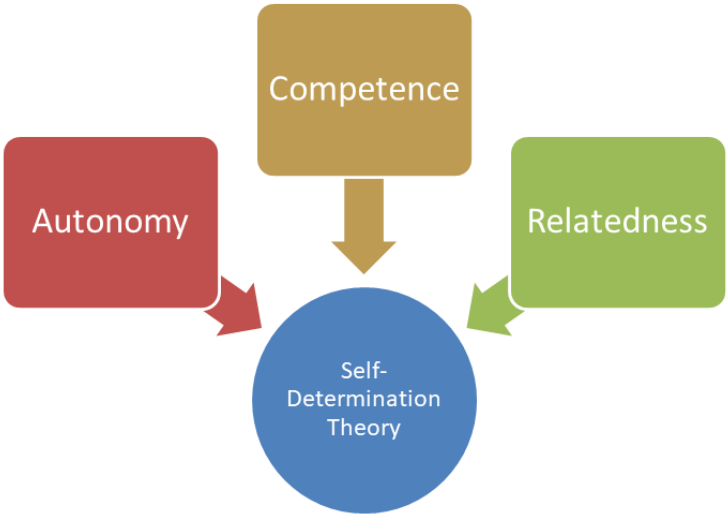

Figure 1. An illustration of components in Self-Determination Theory.

According to Deci and Ryan, "Self-determination is the capacity to choose and to have those choices, rather than reinforcement contingencies, drives, or any other forces or pressures, be the determinants

of one's action" (1985:38). Self-actualization, a part of self-determination, refers to our natural tendencies for growth and goodness (Sheldon et al. 2003). There are three elements of SDT necessary for meeting development goals: 1) sense of choice, 2) self-initiated behaviors, and 3) personal responsibility (Deci et al. 2011). Self-determination is primarily concerned with choice and is founded on concepts of volition, intentionality, or will (Deci and Ryan 1985). Self-determination theory explores how individuals try to fit a sense of self into a network of others' relations (Sheldon et al. 2003), which is important for understanding how people become part of a community in a program like Tour de Fort.

Gulf Islands National Seashore and Tour de Fort

Gulf Islands National Seashore is the largest seashore in the United States park system. GUIS extends across two states (Mississippi and Florida) and includes twelve separate geographic units that cover 160 miles along the coast and encompass 139,175 acres (National Park Service 2017). The area of GUIS closest to Pensacola, Florida consists of the western end of Santa Rosa Island, a barrier island that spans across the Florida Panhandle. Known as the Fort Pickens Area, this unique portion of GUIS includes several historic fortifications from the 19th and early 20th centuries, hiking trails, bicycling trails, and public access to the white quartz sand beaches along Pensacola Bay and the Gulf of Mexico. However, less obvious to the nearly four million visitors GUIS receives each year are the numerous archaeological sites located within the Fort Pickens Area (National Park Service 2016). These sites cover everything from an American Civil War battlefield to colonial shipwrecks. Currently, the Fort Pickens Area does not include interpretative signage to highlight any of these terrestrial and underwater archaeological sites that are protected within the park. Moreover, ranger-led programs do not feature archaeology as a focused theme or as part of their seasonal schedules.

To address this interpretive deficit, in 2011 FPAN Coordinating Center staff contacted the GUIS staff about creating a bicycling tour within the Fort Pickens Area to specifically promote public appreciation of archaeological resources within the park (Figure 2). The program, eventually titled Tour de Fort, also sought to enhance heritage tourism opportunities in the region.

Tour de Fort is a successful program and partnership with NPS staff at Gulf Islands and is offered at least twice a year in the fall and spring. Additional summer and winter guided hiking and kayaking tours of archaeological sites in Northwest Florida were developed and organized in the years since Tour de Fort was launched. Regardless of the mode of transportation used for the archaeology tour programs (bicycle, kayak, or hike), the keys to their success are in forming and maintaining partnerships, customizing them to fit the needs of the sites, and utilizing skills learned in the National Association for Interpretation's training to become a Certified Interpretive Guide.

Figure 2. Tour de Fort program at Gulf Islands National Seashore's Fort Pickens Area in 2017.

Partnerships

Partnerships with organizations or agencies depend on relationships with employees. Forming these relationships was the first critical step for establishing and sustaining archaeology tour programs for three reasons. First, most archaeological sites that are interpreted and open to the public in Florida are managed by nonprofits, universities, or by local, state, or federal governments. In Northwest Florida, sites are primarily located within parks. Permission from the land manager is often either suggested or required to conduct programs at these sites. In some cases, an informal email or oral confirmation might suffice, whereas in others a formal, special-event permit may be required. Either way, receiving permission from site managers to conduct a public tour of an archaeological resource on the property will ensure that no conflicts arise about liability issues or how a site is being interpreted. Moreover, once permission is obtained from site managers, program leaders can use site facilities as staging areas. Second, the cooperation of site managers not only benefits the program by increasing staff availability to assist directly with a tour, but often leads to cross promotion of the program to the local community. Third, partnerships often lead to other benefits, from sharing resources to simply exchanging ideas.

Partnering with the staff at Gulf Islands was relatively easy because FPAN already had a long-established relationship. Because Tour de Fort was pitched as part of the *Let's Move! Outside* campaign, staff members were excited to participate and were impressed with the results. Former NPS interpretive ranger Amanda Carrigan

Grissom wrote later that she “had a blast with the program and felt that others did too” and hoped that FPAN would be “willing to do more.” With regards to linking the program to *Let’s Move!*, she explained:

> “I think you should be commended in initiating the program and linking it to ‘Let's [Move] Outside’ program. In my summer programs with children, I want not only for them to learn a skill of a lifetime like biking, snorkeling and fishing but to just push themselves to the limit with their bodies. It’s a great idea linking history and the natural world together and I feel that the program has great potential” (Amanda Carrigan Grissom, personal communication 2011).

Even with longstanding relationships in place, convincing partners to allow tour programs can sometimes take a bit more work. For example, when the same staff at Gulf Islands was approached about creating an archaeology hiking tour program of precolonial sites at the Naval Live Oaks Area, they were somewhat more reluctant. They initially had some concerns about showcasing sites in that area because of looting in the past. Yet, because trust had already been established, they eventually agreed and over 400 people attended the tour when it was launched in February 2012 (Blair 2014).

Maintaining partnerships is just as important as establishing them. Even if you have developed good rapport with the staff, when individuals leave their positions, the process often must start again. Keeping programs regularly scheduled helps prevent problems with staff transitions. FPAN staff across the state developed tours using a similar framework (Ayers-Rigsby et al. 2020).

Demand, Planning, and Structure

Simply put, people want experiences, and they are willing to pay for them. The guided archaeology tours are a combination of “resource driven” and “market driven” programs (Brochu and Merriman 2008:45). While the programs are based on the archaeological resources available in our area, the tours are also in high demand. These tours regularly reach maximum participant capacity probably because they tap into the “experience economy” (Tyler et al. 2009:283–284). One of Florida’s most important economic industries, cultural heritage tourism, is essentially about experiences that incorporate historic preservation (Tyler et al. 2009). For example, visiting an authentic site with professional archaeologists is in high demand. While most of the hiking and bicycling tours organized by FPAN are free to make them as inclusive as possible, we charge for the kayak tour program to cover outfitter costs and are still able to sell out all available spaces.

Regardless of whether it is hiking, bicycling, or kayaking, all tours are organized and structured similarly. The sites selected for tours must meet some basic requirements. Obviously, they must contain archaeological resources investigated by

professionals. They must also have some type of on-site management and must be publicly interpreted and accessible. Both terrestrial and underwater archaeological sites are included in tours, although the maritime resources are usually interpreted from the land (or afloat when we use kayaks). On tour days, participants meet the staff at the host partner's facility for an indoor presentation (Figure 3). This staging area for the tour program allows us to "meet the group and establish rapport before beginning the presentation" (Brochu and Merriman 2008:74).

Figure 3. The staging area and introductory presentation for the tour were located in the Fort Pickens Discovery Center classroom.

The introductory presentations show the importance of protecting and preserving these resources, give historical context to the sites we visit, provide an overview of the archaeology in the area, and cover any safety issues, especially if the planned route uses busy roads. Liability or photo release forms can be easily completed at that time. Participants who might be physically unable to take part in the tour have an opportunity to get the educational information. The presentation generally lasts twenty to thirty minutes and the guided tour follows.

Tours should always conclude where they begin for participant convenience (Brochu and Merriman 2008:74). When tours end where they start, participants can easily collect belongings they left at the staging area and get back to their vehicles quickly. The distance of the routes for each tour may vary depending on how far sites are from each other, but they all end where they start because organizers design a circular path. The bicycling archaeology tour at the Fort Pickens Area is approximately

four miles, while the hiking tours are approximately one mile in length. Total program time for the guided tours, regardless of the method of transportation, is about two and half hours. This seems to be the best distance and program length for an audience with varying levels of physical capabilities.

The archaeology tours include three to five stops at different archaeological locations along the way. At each site, the tour guide provides more detailed information including relevant maps and images. Additionally, participants can pass around and examine artifacts from the FPAN type collection at each stop. These tangible objects not only allow the audience to have physical contact with the past but are useful teaching devices to show that the value of each artifact is related to understanding their context. Reinforcing the importance of context throughout the tour is critical, because it demonstrates why looting, development, and erosion are so damaging to sites and efforts to interpret the past.

Engaging different learning styles is important because participants are often diverse in age and educational backgrounds (Brochu and Merriman 2008:65–66). As an example of a broadly popular activity, participants at Native American precolonial sites can taste “Black Drink.” This traditional southeastern Native American tea was used for thousands of years and the Yaupon Holly tree, from which it is made, is still commonly found in the areas we explore in Northwest Florida. The leaves for brewing this Native American beverage are easily acquired locally and online guides show how to collect, roast, and properly prepare it for consumption (Worth 2014). Alternatively, there is a renewed interest within the tea industry for Yaupon and premade teabags are available for purchase online (Dickinson 2016). Engaging the sense of taste connects the past to the present and adds to the experience.

Certified Interpretive Guide Techniques

Incorporating Certified Interpretive Guide (CIG) training from the National Association for Interpretation (NAI) was a critical step in creating successful archaeology tour programs at FPAN. The NAI is a non-profit organization that advances the practice of heritage interpretation through publications, trainings, and conferences. The NAI offers certified training programs throughout the year. Their CIG training is a four-day intensive workshop where participants learn the basic theory and craft of creating effective guided interpretive programs. All FPAN staff can get this training as part of their professional development.

Maslow’s “hierarchy of needs,” an important component of CIG training, helps interpreters recognize that participants on any tour program need to feel safe, secure, comfortable, and included (Brochu and Merriman 2008:42–43). If a program does not meet these requirements, people will typically walk away without an appreciation for the message built into the interpretation. In practice this has meant that, for example, given regional weather conditions, only our kayaking tour programs are offered in the

late spring or summer. While summer temperatures in Northwest Florida are too hot for hiking or bicycling, they are comfortable enough if conducted on the water via kayak. This enables us to offer guided archaeology tour programs year-round. Additionally, selecting carefully vetted routes for tours is incredibly important for the safety of participants involved.

Other main aspects of NAI training that have been incorporated into the archaeology tour programs are Tilden's principles for interpretation (Tilden 2007) and Ham's TORE model (Ham 2007; discussed at length below). As Tilden emphasizes in his book *Interpreting Our Heritage*, interpretation is not simply providing people with facts (Tilden 2007:8). Interpretation is ultimately about effectively communicating a main idea or message to an audience. The main message for our guided archaeology tour program is that archaeological sites are protected, nonrenewable resources that help us understand the past. While each program includes topics specific to the areas we visit, the fundamental goal is for our audience to walk away understanding the importance of preservation and appreciating the resource.

Tilden developed a set of six principles (Table 1) or guidelines for creating successful interpretation (Brochu and Merriman 2008:24). Ultimately, providing the public with a better understanding and appreciation of these resources leads to their protection. Tilden concisely paraphrased a directive issued to NPS in 1953 by its director, Conrad Wirth, "Through interpretation, understanding; through understanding, appreciation; through appreciation, protection" (Tilden 2007:65).

Table 1. Freeman Tilden's Six Principles of Interpretation (National Park Service 2018).

Principle 1: Relate	Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.
Principle 2: Reveal	Information, as such, is not interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information.
Principle 3: Use Arts	Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical, or architectural. Any art is in some degree teachable.
Principle 4: Provoke	The chief aim of interpretation is not instruction, but provocation.
Principle 5: Portray Whole Part	Interpretation should aim to present a whole rather than a part, and must address itself to the whole individual rather than any phase.
Principle 6: Be Appropriate	Interpretation addressed to children (up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program.

While these six principles are still widely used today and are incorporated into the program, Ham's TORE model offers a more concise method for developing tours. According to the TORE model (TORE stands for Theme, Organize, Relevant, and

Enjoyable), the first step for effective interpretation is to select a theme. Themes are simply “messages or ideas we want to transmit” (Brochu and Merriman 2008:50). Once a theme is selected, the next step is to identify no more than four subthemes. Based on Ham’s research, most visitors will walk away from an interpretive experience with the ability to recall only four or fewer main points. The final two steps in the TORE model include making the material relevant and enjoyable, which is usually accomplished by connecting the resources with universal concepts. According to Ham, “Based on over a century of cognitive research, this framework says that for any communication to be successful, it must be enjoyable to the audience, relevant to what they already know and care about, organized for easy processing, and it must make a compelling point (communicate a relevant theme)” (Ham 2007:42). The University of West Florida Anthropology and Archaeology faculty and students investigated the sites in Northwest Florida where we conduct archaeology tours; most of the information used to develop the interpretation for the tours is based on their written research. We often supplement this with our own research from the Florida Master Site File, and our partners provide additional information about other aspects of sites, including the ecology, biology, and history (Figure 4).

The type of transportation and the layout of the route determine how many people we feel confident leading on each individual tour. We limit the number of participants to twenty-five for kayak tours, but for the hiking and bicycling tours at Gulf Islands the limit is forty people and we usually reach maximum capacity. Unexpectedly four hundred people showed up for our first hiking tour of the Naval Live Oaks Area.

Figure 4. Participants stopped at five different sites to discuss the archaeological resources within the park on land and underwater. In this image, Dr. Della Scott-Ireton explains the significance of the *USS Massachusetts* to participants.

The NPS ranger and FPAN staff quickly adapted the program following the introductory presentation. We hiked through the entire route without stopping and filled in the details not covered in the introduction once we returned to the staging area. We now require participants to preregister for the program so we can control the number of participants. Ideally, a ratio of one guide for every twelve audience members seems most effective.

Assessment

If we measure the success of these archaeology tours based solely on the number of participants, then they are certainly worth the time and resources to organize. However, numbers alone do not tell us if we achieved our goal for the program, which is for the audience to walk away appreciating the cultural resources they visited. Attendance numbers indicate a demand for a particular program. To better understand the actual impact of our guided archaeology tours, FPAN implemented a formal assessment program. In March 2017, the Tour de Fort program was assessed using mixed method analysis (Creswell 2009). According to Moe (2016:452) “assessment of learning outcomes is critical for the long-term success and sustainability of archaeology education. Assessment should be viewed as part of the development process for any type of project or program to bring archaeology to the public.” Assessments allow for organizations to continually improve to meet the needs and expectations of participants (Moe 2016).

According to Kirkland and Carr (2010), due to the lack of formal education on archaeology, the public often misunderstands the science of archaeology and its goal. While a few public archaeology outreach programs exist around the U.S., there is no concise or overarching programming standard for this type of education. As King (2016) notes, public archaeologists have informally evaluated programs based on attendance numbers, but there has not been a recognized formal assessment rooted in best practices that utilizes measurable goals. Just like FPAN’s current mission statement, most envision archaeology education as a tool for establishing cultural heritage appreciation in the public. Some of the issues stem from the fact that much of the data from current programs remain unpublished. An important question yet to be answered by research is does community archaeology output (in an assessment sense) have lasting impacts beyond the duration of the projects? This question leads researchers to address the issue of what their ideal expectations and achievement changes are for community values and identities due to public archaeology engagement.

Overview of Research Design

To assess participant learning outcomes for Tour de Fort tours, researchers used both quantitative and qualitative collection methods. Data were analyzed for participants’ perceptions, motivations, and perceived benefits. Data collection occurred in two

phases. For the first phase, we administered paper surveys immediately after the program ended. In the second phase, willing survey participants were interviewed by telephone. The strength of this design stems from the fact that one method offsets the weaknesses of the other method (Creswell 2009). Mixed method approaches to research help to increase the validity of the study (Babbie 2013).

Surveys and interviews were used to explore why participants attend programming, what benefits participants experience, and what participants' perceptions of programming are. The researcher used descriptive statistical analysis for the quantitative data collected to draw conclusions and gain knowledge about the perceptions and attitudes participants have about programming and their motivation for attending the programs. The overall goal of this methodology was to describe participants' motivations for attending programming, their perceptions of the components of public archaeology, and the benefits of their experience in order to improve the program's effectiveness.

Methods

Approval from the University of West Florida Institutional Review Board for Human Research Participants' Protection was requested and received before data collection began. Survey participants who provided contact information received a phone call to schedule an interview time. Each method was used to collect data in a separate phase, and only one type of data was collected at a time. The first phase consisted of quantitative collection and data analysis; the second phase followed with qualitative data collection and analysis. The quantitative results helped to inform data collection in the second phase. The qualitative portion of this two-phase explanatory sequential design helped to explain the initial qualitative results (Creswell and Clark 2011). Surveys included consent forms that explained the purpose of the research and contained contact information for the researcher and the University of West Florida's Office of Research.

Data Collection

Survey designs provide a specific framework for quantitative descriptions of trends and attitudes of a population or samples within the population (Creswell 2009). Surveys were used to collect participants' perceptions, motivations, and benefits of programs they attended. The surveys contained questions on demographics, marketing, motivation, program environment, and content.

Surveys are commonly used for measuring attitudes and orientations of a population (Babbie 2013). Surveys can reveal the extent to which a respondent believes, or holds, a particular attitude on a statement made by a researcher in the

survey. Quantitative research can explore significant social situations or problems for a group (Creswell 2009).

Due to the remote location of the program, paper surveys allowed for convenient data collection. Research literature that mapped out comprehensive assessment of public archaeology education programs was not available, particularly not any that examined behavioral change in participants with regard to respect and appreciation for cultural heritage. For this survey, Clark Hunt created questions that specifically addressed areas of interest regarding appreciation for cultural heritage.

Participants were asked to respond (agree or disagree) to short statements, using a Likert-type scale and one open-ended question. Most of the questions employed a Likert-type scale of one to five, measuring from 1=strongly agree, 2=agree, 3=neutral, 4=disagree, to 5=strongly disagree. Two questions employed yes or no choices. Three questions employed specific choices without a general scale. The scale allowed the researcher to measure the intensity of different items in the survey (Babbie 2013). Collecting data at the end of the program minimized distractions during the program. Names of the participants were kept confidential by assigning a number and letter to each survey. All data were gathered at Fort Pickens in Gulf Island National Seashore which is located in Escambia County.

At the time of this survey, according to the U.S. Census Bureau (2015) the population of Escambia County was 315,187, and individuals 65 years and older made up 16.2% of the population. People with a bachelor's degree or higher made up 24.5% of persons 25 years or older. The median household income for Escambia County was $45,390. The survey and interview data are from a public archaeology program in Florida.

The survey was comprised of twelve questions and took approximately 10 minutes or less to complete. The survey asked about the zip code, age, income level, education, and sex of the participant. An open-ended question was analyzed for categorical themes in the responses. The descriptive statistics provided context for perceptions and motivations of the attendees. For participants, a consent form was included with the survey to obtain permission to collect and use their survey data for research purposes. Statistical Product and Service Solutions (SPSS) and Statistical Analytic System (SAS) were used to analyze the quantitative data collected. SPSS is an analytical software package common to social science. SAS is an analytical software used for advanced analytics. A second researcher checked the entries in SPSS to evaluate precision and increase the entry quality.

Survey answers were organized in SAS for analysis. If a participant left an answer blank in a question, then blank answers were removed from the data analysis. Because no distribution appeared normal when interpreting the frequency tables, a nonparametric test was used to analyze any correlation between responses from

paired questions. The focus of the analysis specifically examined the correlation or independence of the questions. A chi-squared test was utilized due to non-normality and core interest to determine dependence between any two categories (Agresti 2007).

After analyzing the data and interpreting the results, we confirmed them with Fisher's exact test because of the small sample size. While the chi-squared test is valid for large sample sizes using a distribution approximation, Fisher's test is a better fit for a small sample size because it will perform interference using exact distributions (Agresti 2007; Ott and Longnecker 2016). According to Hess and Hess (2017), Fisher's exact test is usually applied to small samples with 2 x 2 tables and examines the distribution of counts within a categorical table. Fisher's exact test asks, "given these marginal totals, what is the probability of obtaining data as or more extreme than the data observed?" instead of "how different is our observation from expectation, given these marginal totals?" (Hess and Hess 2017:878).

Analysis of the data allowed for the discovery of qualitative factors such as what motivates participants to attend; participants' perceptions of programming; and what benefits participants experience from being part of a program. If participants wanted to be interviewed, they could provide their contact information.

The second phase of data collection consisted of semi-structured interview questions. All interviewees were asked six questions:

1. What benefits did you experience during the program?
2. What program elements did you like?
3. What program elements did you not like?
4. What motivated you to attend?
5. Do you think the program was educational?
6. How do you think you will use the information from the program?

Results

The survey data are represented below in the demographic and quantitative analysis. All information comes from surveys (*N*=29) that were collected after the program. This original sample group included 2 children and 43 adults. Of the 45 participants, 29 filled out surveys. Of those 29, four participants were chosen to participate in the phone interviews in the spring of 2017 based on evidence of new themes in the open-ended responses. The interview data is represented in the qualitative analysis. All participants agreed to be recorded over the phone. Interview responses were hand coded for themes. A second coder was enlisted to independently check the coding, and any disagreement on coding was discussed until a consensus was reached, ensuring inter-coder reliability

Data and categories from the hand coding were entered into HyperRESEARCH, a computer-based statistical research tool commonly used for qualitative analysis. Fifteen categories and 44 codes were used to transcribe the interviews into HyperRESEARCH. Major codes are themes found in interview data three or more times. Minor codes are themes found in interview data one or two times. Since the purpose of the interviews was to discover new themes, minor codes have been included in this analysis.

The first presentation was in the auditorium, lasting approximately ten minutes. The presentations during the bike tour took less than five minutes each. The bike group maintained a slow pace during the tour so that everyone could stay together. The three FPAN staff members positioned themselves throughout the group to help guide and assist participants.

Demographic Information

Demographic information collected in the survey contained each participant's zip code, age, income, education, and sex. Zip code data were used to determine how far attendees traveled (Table 2). More than three-quarters of the participants lived within 20 miles of the program and only one was not a resident of Florida.

Table 2. Participant Travel Description.

How far did participants travel?	
Outside of the state of Florida	3.4%
Live farther than 20 miles	13.8%
Live within 20 miles	79.3%
Chose not to answer	3.4%

Participants' ages were broken down into categories (Table 3). All participants answered this question. One (3.4%) participant was 18 to 24. Eleven (37.9%) participants were 25 to 34. Three (10.3%) participants were 35 to 44. Two (6.9%) participants were 45 to 54. Eight (27.6%) participants were 55 to 64. Four (13.8%) participants were 65 or older.

Table 3. Survey Participant Ages.

Age Groups	
18 to 24	3.4%
25 to 34	37.9%
35 to 44	10.3%
45 to 54	6.9%
55 to 64	27.6%
65 and older	13.8%

Income levels for the participants were broken down into categories: less than $29,999 a year; $30,000 to $49,999 a year; $50,000 to $99,999 a year; and $100,000 to $349,999 a year (Table 4). Three (10.3%) participants gave no answer on the survey. Three (10.3%) participants answered that they earned less than $29,999 a year. Five (17.2%) participants answered $30,000 to $49,999

Table 4. Survey Participant Income.

Income Level	
$29,999 or less	10.3%
$30,000 to $49,999	17.2%
$50,000 to $99,999	48.3%
$100,000 to $349,999	13.8%
No Answer	10.3%

a year. Fourteen (48.3%) participants answered $50,000 to $99,999 a year. Four (13.8%) participants answered $100,000 to $349,999 a year.

Educational attainment for the participants was divided into categories: no college education, associate degree, bachelor's degree, master's degree, doctorate, and Doctor of Medicine (Table 5). All participants answered this question. Two (6.9%) participants had no college education. Five (17.2%) participants had an associate degree. Five (17.2%) participants had a bachelor's degree. Fifteen (51.1%) participants had a master's degree. One (3.4%) participant had a Ph.D., and one (3.4%) participant had an M.D.

Table 5. Survey Participant Education.

Education Level	
No College	6.9%
Associate's Degree	17.2%
Bachelor's Degree	17.2%
Master's Degree	51.1%
Doctoral Degree	3.4%
Medical Doctorate Degree	3.4%

Table 6. Survey Participant Sex.

Sex	
Male	55.2%
Female	44.8%

The sex of the participants was divided into female, male, and other (Table 6). All participants answered this question. Sixteen (55.2%) participants answered that they were male. Thirteen (44.8%) participants answered that they were female. No one answered other.

Quantitative Analysis

These data were collected from the surveys following the general demographic data. The questions were created based on past research of programs in Library and Information Science (Clark 2016). According to Boone and Boone (2012), Likert-type scales are made up of single questions that use some part of the original Likert response scale, but do not support combining responses from the items into a composite scale. Because the objective of this study was not focused on developing a composite scale, the question format does not represent or follow the procedures for developing a true Likert scale. Likert-type scale data are considered ordinal data. Boone and Boone (2012:3) note, "Descriptive statistics recommended for ordinal measurement scale items include a mode or medium for central tendency and frequencies for variability." Table 7 presents a list of the variables used in the statistical analysis.

Table 7. List of Dependent Variables.

1. If the program staff were responsive and if the program helped the participant appreciate archaeology
2. If the program staff were responsive and if the program changed the participant's perceptions about archaeology
3. If the program was educational and if the program helped the participant appreciate archaeology
4. If the program environment was safe, supportive, and friendly and if the program helped the participant appreciate archaeology
5. If the program environment was safe, supportive, and friendly and the program staff were responsive
6. If the program changed the participant's perceptions about archaeology and if the program helped the participant appreciate archaeology
7. If the program was educational and if the program changed the participant's perceptions about archaeology

The one open-ended question in our survey asked participants, "What is your favorite part of the program?" Answers to this question were categorized as follows: Bicycles, Information, Outdoors, Fun, Tour, Everything, and Staff. Below is the SAS output for chi-squared and Fisher's exact analysis for our paired survey questions. Using a standard significance level of 0.05, each Fisher's test shows a significance in correlation between the two topics in question (Table 8). The SAS output, showing the findings of the tests, is described below by the probability provided by each test.

Table 8. Bike Tour Program Elements.

	Change in perceptions of cultural heritage due to attending the program	**Change in the level of appreciation for cultural heritage**
Responsive Employee	83%	78%
Safe Environment	63%	67%
Educational Value	63%	67%

p-value<0.05

The perceived safety of the environment and the changing perceptions of archaeology held by the participants are shown to have an independent relationship, meaning they should not directly affect each other. The 63% of entries with a frequency less than five indicates that Fisher's exact test was a more appropriate analysis to use.

The perceived safety of the environment and the responsiveness of the employees during the bike tour has a dependent relationship as demonstrated by Clark (2016). The 67% of entries with a frequency less than five indicates once again that Fisher's test was a more appropriate analytic tool.

Table 9. Perceptions and Appreciation for Cultural Heritage.

	Change in perceptions of cultural heritage due to attending the program
Change in the level of appreciation for cultural heritage	78%

p-value<0.05

Chi-squared tests noted significant relationships between the variables shown in Table 7, while Fisher's exact test noted significant dependent relationships between the variables mentioned in tables 8 and 9. These variables show that the program participants' perceptions and appreciation for archaeology can be impacted by specific program elements that are easily modified. The responsiveness of the staff, the program' environment, and the educational nature of the program are all components that are adaptable to the expectations of the participants. If the variable of perception and appreciation were changed by the income level of the participants, then variable six is not easily changed. The program could be marketed to a different educational level, but that does not ensure interest or attendance.

Our analysis shows dependence between several variables and particularly demonstrates that a participant's positive perception of archaeology is dependent on feeling that they are in a safe environment. Secondly, their appreciation of archaeology increases based on their comfort in the environment, the responsiveness of the employees running the bike tour, and whether they found the tour educational (Figure 5).
Importantly, Fisher's test results for statistical analysis confirms that changing participants' perception of archaeology and helping them to appreciate archaeology is a significant relationship ($p<0.0280$, Fisher's exact test).

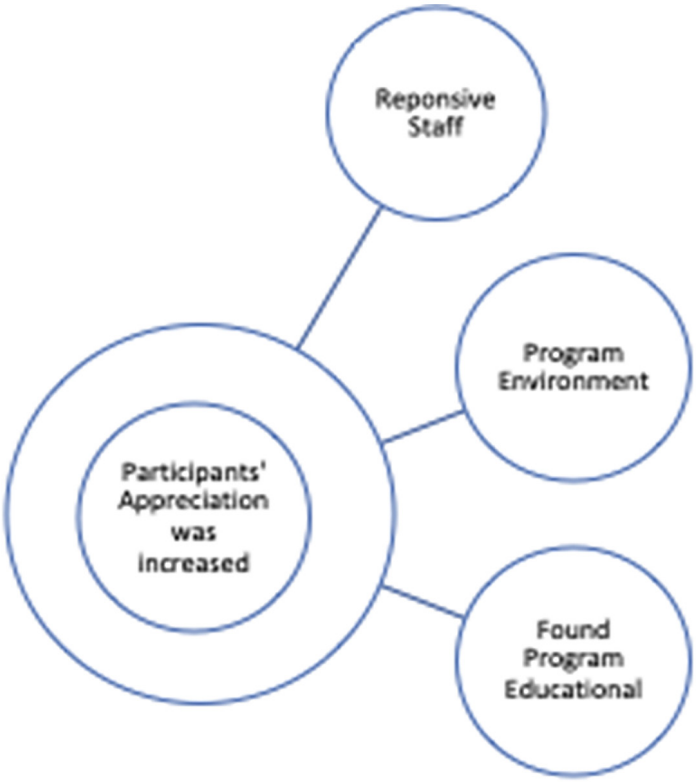

Figure 5. Relationship between participants' appreciation increasing and dependent variables.

Qualitative Analysis

The five participants who volunteered to be interviewed were contacted by phone. All participants were specifically asked about program elements they liked, program elements they did not

like, benefits experienced from the program, impact of the program, and paying for the program. Participants highlighted several themes in their discussion of the benefits and impact of the program. Some participant comments address more than one theme.

Previous Knowledge

One major theme centered on whether the participant had previous experience with archaeology was highlighted in comments on prior encounters with archaeology. Participant knowledge was varied. While one participant was a professional archaeologist, another recalled an experience with public archaeology prior to the tour.

- "I am an archaeologist, so I didn't really like, learn anything new. Well, I learned some stuff, but like, my perceptions of archaeology are pretty formed, because I have a master's degree and am a professional archaeologist, and trying one program will not change my perception of archaeology."
- "We used to go down the river and actually watch, because we had a mound there, an Indian mound. We could see skeletons that actually washed off the bank into the water. I actually got to go see a dig at the University of Alabama looking for Indian artifacts. I hate to go back to this, but the people that were talking to us were so knowledgeable and could pinpoint things for us to see and to understand. Without having to over explain, they were able to present things, and talk about it in a way that everyone could understand, and the fact they could answer questions about it."

Benefits

The major themes highlighted as benefits included accessing local historical information, education, and exercise; all were major outcomes of the programs. Outcomes are defined as the impact of the services and programs on people (Gross et al. 2016). Impact was addressed in a separate question during the interviews. While given answers were somewhat different, information was considered to be both a benefit and an impact.

Major themes of participants' benefits fell directly into the format of the program elements desired:

- "The amount of information that they pass along is fantastic…I am looking for information on the dig over there on the de Luna site. The presentation of the information and how it was presented. I think I picked up some good information about the *Massachusetts*, about the *Catharine*, the *Rosa*, and the fall of Fort Barrancas."
- "Well we learned a lot of information that you all gave us about the places. I'm familiar with the fort but I picked up some more tidbits of information."

- “The main benefit is more knowledge about the local area. That you become more involved in the community, and you learn. As you learn, you get a better basis of the history, and of the things that went on, so that you better understand where you live.”
- “Oh! And the exercise. The physical exercise, you can’t beat that. Sorting the artifacts were interesting, but not nearly as interesting as getting out, moving about, out in the real world, and not just sifting through a little box in a room somewhere. I know that’s important, once you find the artifact, but what we did was more fun.”

Impact

Several quotes highlighted the major theme of acquiring local information:

- “We don’t understand how important the story is, not what the artifact is…Once you work on an archaeological site you’ve ruined it. You have taken the artifact out and you can’t put it back. You can’t tell that part of the story anymore. So, if I walk up on an artifact and I put it in my pocket the information just died in my pocket.”
- “I gained some information. I learned a lot. I met a lot of people from all walks of life. I learned a lot about history of the fort.”
- “Well, it made me more aware of my area. The only drawbacks were talking about ships that were offshore, and we didn’t talk about one of the battlefields, and we knew where the ships were, but so you knew, you could envision what had happened, but you couldn’t actually see it. When you got the battlefield, you know that those people were right there and that it happened those many years ago, and it was very important a turning point in history.”

Participants reported various benefits from attending the program. Most of the comments on benefits involved the information on local history that was shared at the introductory presentation for the program or during the outdoor biking activity through Fort Pickens. Gross and others (2016) categorize benefits in terms of skill, knowledge, attitude, behavior, and life status. The main bike tour outcome was increased knowledge of historical context throughout the Fort Pickens area. A secondary outcome was an appreciation for cultural preservation that should lead to behavior that will help preserve cultural sites (Tilden 2007:65).

Findings

The data from this case study offer an insight into the perceptions that participants have about an outreach program focused on cultural heritage. In this case study, a bike tour was an activity of choice, and the presented information was historical content for the Fort Pickens Area; both elements motivated people to attend. The benefit was

knowledge of the Fort Pickens Area and appreciation for archaeology. The bike tour required participants to master riding in a bike train by behaving in a certain way. The importance of being able to participate was a theme that several attendees commented on in the interviews. Including an element of behavioral choice that allows individuals to participate in something—even if it is not related to archaeology—is important to people. There should be clearly defined benefits for attendees that take into consideration their motivations for choosing the program, but also allow for an activity in which they feel as if they have control and the ability to master it. Self-determination theory emphasizes the element of control in generating successful experiences.

Requiring preregistration limits group size and can help provide inclusion for participants with special needs who might find long, physically active tours difficult. On the downside, those who are left out of the program may feel dissatisfied. Program impact is the measurable change experienced by participants. Satisfaction may be further enhanced if the participant perceives they received benefits beyond their initial perception or expectation. Customer satisfaction is a post-consumption evaluation and could be used as a measure of program quality. Perceived performance is a direct determinant of satisfaction. Satisfaction from receiving perceived benefits leads to loyalty. Established program outcomes focus on increasing knowledge and appreciation of archaeology. Program elements such as activities or information did not specifically motivate participants to attend, but directly influenced the educational outcome of the program and whether participants appreciated archaeology. If no one comes to a program, then it is no longer needed or a viable resource for interaction with the public (Clark 2016). If the desired program elements shown above in Figure 5 are not experienced by participants, then the goals have not been reached.

FPAN's mission statement is "To engage the public by promoting and facilitating the appreciation, value and stewardship of Florida's archaeological heritage through regional centers and partnerships" (Lees et al. 2015). Tour de Fort program leaders equate appreciation and loyalty to cultural heritage. Individuals who express a need to protect and preserve elements of history in their community appreciate cultural heritage. Appreciation for cultural heritage could have originated from a public archaeology educational experience and is a demonstration or expression of value for local archaeological resources. If a person feels a desire to support cultural preservation and will speak up for a threatened site, then that individual appreciates cultural heritage. Perceptions of archaeology must be changed through knowledge.

A survey question measured the change in participants' perception of archaeology; this is an important change, whether the participant fully appreciated archaeology or not. A person may not yet appreciate cultural heritage, but they might have experienced a change in perception about archaeology. This change is a positive move toward appreciation and ultimately the goal is for the public to exhibit behavior that demonstrates respect for cultural heritage and its preservation. The program

environment, educational content, and program staff are all components of the programs that FPAN develops and implements. Having control over these elements ensures that FPAN can influence the appreciation and perceptional change that the participants experience from the program. When a participant is already saturated with archaeological information (e.g., one participant with a master's degree), perceptions of archaeology are not changed.

Future Directions

FPAN and other organizations have a responsibility to assess program quality through establishing clear, measurable outcomes. Clear, measurable outcomes are best practice and provide a direct route for continuous improvement (Gross et al. 2016). Participants should be able to share either quantitatively or qualitatively their motivations for attending programs—information that will help to continuously improve programs, better serve the public, and develop successful new programs. While most survey responses were overwhelmingly positive, one participant did not agree with some of the statements. Program leaders should always remember that while they may do an excellent job, they could still fail in the eyes of participants. Every person who comes to a program brings his or her own personality and past experiences. If a person has a fender bender or gets into a fight on the way to the program, they may have a terrible time, and nothing can be done. Sometimes the program leader cannot satisfy the expectations of that individual no matter what, and it has nothing to do with the program.

Over 144 million Americans participate in outdoor activities at least once a year and interest continues to grow. Americans participated in 11 billion outdoor outings such as biking, boardsailing, and triathlons (Outdoor Industry 2017). Outdoor leisure and cultural heritage make great experiences that are conducive to tourism, discovery, and personal growth. Many people participate in an outdoor program for the opportunity to be outdoors, but others may prefer the informational aspect of the program.

Learning more about what participants expect will help program leaders provide high-quality programs, which will lead to greater satisfaction and brand loyalty. Clear program descriptions via the website will help to set reasonable expectations, and program leaders will be able to address misunderstandings and adjust expectations.

In the most recent census consulted for our project period (U.S. Census Bureau 2010), participants in this study had higher educational and income levels than the average for Escambia and Santa Rosa County. This could mean that program participants expected higher levels of program quality than the average individual from the local area. Because some populations have higher expectations, in those areas more one-on-one interaction, experiential activities, and additional time spent on informational lecturing may be beneficial.

Stories connect people to heritage (King 2016). A program's focus should not just encourage participants to be part of an activity but should help them "participate in the archaeological activities and support archaeological research" (King 2016:417). Our quantitative and qualitative data suggest a need for activities that people love guided by responsive, knowledgeable staff in safe, enjoyable environments. Archaeology education can have an impact which can move people to appreciate these resources. Some people who attend educational programs may be starting from a position of no knowledge or appreciation for cultural heritage; it is an accomplishment to move them along a continuum to the point of appreciation. Several people in our programs had already experienced public archaeology or archaeology education in some form. Public archaeologists should remember that each educational experience can build on previous experiences.

Limitations

The case study results came from 29 surveys and 4 interviews, an extremely small sample. Respondents were self-selected since both assessments were voluntary. The data summary reported here certainly does not represent the views of all participants who attend cultural heritage programs. More research is needed in public archaeology education within the context of informal learning, particularly for cultural heritage programs that include participants' voices on the structure of the program and how the instruction is delivered. More longitudinal research on the long-term impact of these programs is needed, although it is difficult to follow participants over several years or even a few months. The result of such research would help inform the field on issues such as lack of impact on behavioral changes in participants.

Conclusion

Creating and conducting archaeology tour programs helps to provide the public with opportunities to experience authentic places that are part of our shared cultural heritage. People want experiences and clearly archaeology tours provide them. Heritage tourism in general is an important part of Florida's economy, so capitalizing on the demand for it to instill an appreciation for cultural resources should, as Freeman Tilden explained, hopefully contribute to their protection. Key elements for creating guided tours of archaeological sites include forming partnerships with the organizations that manage the sites; customizing tours to account for distances and resources available in a selected area; and incorporating CIG techniques to develop effective interpretation. So far, both anecdotal evidence and formal assessments demonstrate that, in some respects, this method is achieving the ultimate goal of promoting the public appreciation of Florida's archaeological resources.

Metrics for educational outcomes were not in place before this program was initiated therefore the success of the program was articulated by the participants in their own words instead of measuring outcomes against established standards. Future research should establish benchmarks for cultural heritage outcomes in education and measure these outcomes. Ideally, they would be measured longitudinally to see if retention of the program learning outcomes had any long-term impact.

From the interviews, it is evident the participants were educated about the local cultural heritage, but education can also speak to attitudinal and behavioral change. While the program was designed to be educational, the goal was to deliver a broader measure of success that matched the FPAN mission and vision. Demonstrated both quantitatively and qualitatively, our main finding is that attendees' motivation and prior information increase benefits. In other words, if participants' expectations are met, they will feel like they learned something and will remain loyal.

Evaluation of educational programs is necessary for decision-making in program creation and adaptation. FPAN has developed an effective bike tour that has had a positive impact on respondents. While participant satisfaction is held to a high standard, participants arrive intrinsically motivated, which sets an initial positive tone for the program. FPAN has significant control over the participants' appreciation and perception of archaeology. The format (environment, staff, and educational content) has created a winning combination that has the potential to fuel loyalty to cultural heritage in the Pensacola area.

Acknowledgments

The authors wish to thank Dr. William Lees for his support in researching this program; FPAN Northwest Region staff members Dr. Della Scott-Ireton and Nicole Grinnan for their assistance in developing and implementing the Tour de Fort program; Gulf Islands National Seashore rangers Sandra Tennyson and Matt Armstrong for allowing this program to continue; University of West Florida Department of Mathematics and Statistics' members Dr. Samantha Seals and Tyler Smith for their help evaluating the program; and finally all the reviewers and editors for their comments and suggestions.

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