LEARNING ON DISPLAY

Designing an engaging and inclusive educational space at **The Walmart Museum**

KAREN HENRY I VANDERBILT UNIVERSITY I AUGUST 2022

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KAREN HENRY
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In partial fulfillment of the requirements for the degree
of Doctor of Education in Leadership and Learning in Organizations
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Advisor: Matthew Campbell, Ed.D.

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EXECUTIVE SUMMARY

The Walmart Museum, a corporate museum in Bentonville, Arkansas, is the site of this capstone project. The museum informs visitors about the history of Walmart, the world's largest employer, its founder, Sam Walton, and his family. The venue is about to undergo a multimillion-dollar renovation and expansion. While the overhaul is still in the planning stages, the museum's senior director seeks to add an educational area, tentatively dubbed MentorED. The objective of the learning space is to inform visitors about Walmart and Sam Walton, while offering insight into what it takes to become a successful business leader. For my capstone project, I explored educational options for MentorED. Using qualitative and quantitative research methods, I analyzed similar programs already in place at other museums and organizations. In addition, I drew from my background in education and communications to help implement an inclusive and informative educational experience through the MentorED pedagogy and learning platform. Walmart executives approved a vertical expansion of the current venuex, which means the MentorED exhibit will be in a newly created and dedicated space on the second floor of the existing building, where it will incorporate state-of-the-art technology into the design of the exhibit.

PROBLEM OF PRACTICE

The goal of this study is to aid in developing a learning space and platform for The Walmart Museum. The significance of the findings of this project will assist in discovering the type of pedagogy and technology that best serve the museum's mission of educating guests about Walmart and its groundbreaking business leader, Sam Walton, in an inclusive, engaging, and innovative manner. The educational space is important in not only helping visitors to gain knowledge about Walmart and the Walton family, but to assist in informing the public about the positive aspects of the company. While museums are essential in providing knowledge that is not taught in schools through an informal learning environment, many museums are neither equitable nor engaging in imparting content. Many museum exhibits are static, requiring patrons to read long passages of texts. The learning spaces often are aimed at children and do not take into account the backgrounds and past experiences of patrons. This project aims to determine the best practices to create a space that takes into account visitors' learning styles, experiences, and desires to develop a space that engages all patrons and helps them gain a deeper understanding of the museum's artifacts.

PROJECT QUESTIONS

The purpose of this capstone project is to determine the best ways to create an engaging and inclusive learning space for The Walmart Museum. In doing so, I seek to answer the following project questions:

❖ **QUESTION 1:** What types of educational programs are best at helping museum visitors acquire knowledge and understanding of Walmart and the Waltons?
❖ **QUESTION 2:** How can the learning activities at The Walmart Museum be designed so they are inclusive to all patrons?
❖ **QUESTION 3:** What technologies and methods can help The Walmart Museum engage and maintain the interests of learners?

FINDINGS

My findings are as follows:

❖ **FINDING 1:** Interview and survey responses indicate that watching, discussing, and touching are the best ways to learn.

❖ **FINDING 2:** Interview responses indicate the need for learning spaces to address all age groups and genders. These spaces must also consider non-English speakers and people with including physical and learning disabilities.

❖ **FINDING 3:** Survey and interview responses indicate museum visitors will stay engaged in spaces that are interactive and with guides available to answer questions.

RECOMMENDATIONS

My recommendations are as follows:

❖ **RECOMMENDATION 1:** The educational space should feature interactive displays, which include components that visitors can see and touch.

❖ **RECOMMENDATION 2:** The educational space must use clear, jargon-free signage and have apps or guides available for non-English speakers.

❖ **RECOMMENDATION 3:** The educational space should use interactive technologies and should incorporate a discussion aspect and have a guide on hand to answer questions.

By implementing these recommendations, I am confident that The Walmart Museum will be able to create an innovative and interactive learning space that is engaging and inclusive to all visitors. In doing so, the museum will be able to bring in more traffic, allowing more people to learn the uplifting story behind Walmart and its positive impact on society.

The Walmart Museum is housed in the original Walton's Five and Dime.

02 INTRODUCTION

Mismatched floor tiles greet visitors of The Walmart Museum, housed in the former Walton's Five and Dime on the downtown square in Bentonville. Nestled in the Ozark Mountains, less than a mile from Walmart's global headquarters, the museum's iconic 1950s-era façade features a red-and-white striped awning, reminiscent of that time. The tiles don't match because during installation in 1951, the store's owner, a 32-year-old former World War II Army captain named Sam Walton, got a reasonable price on a batch of tiles that were not quite the same color as the ones already in place. Walton wanted to keep costs low for his customers, so paying more for matching tile wasn't a practical decision.

That's one of many stories you'll hear while taking a stroll through the historic site with Alan Dranow, the museum's senior director. Dranow, who studied journalism and dramatic literature at New York University and once wrote for Rolling Stone magazine, is a gifted storyteller. Dranow's eyes light up as he shares the history of Walmart, including first-hand accounts of interactions with Walton family members and Walmart executives and associates. Dranow is not just enthused about sharing memories from the past. He is also excited about the future. The museum will soon undergo a significant renovation and expansion, adding multiple state-of-the-art exhibits.

The importance of this museum is evident from the moment guests enter near the mismatched tile. At this small Five and Dime, Walton began to shape his philosophy of putting the customer first. Walton went on to open other discount retail stores in Arkansas, Kansas and Missouri, and in 1962, he opened the first Walmart on Walnut Street in Rogers, Arkansas, only a few miles from the Five and Dime. Walton grew Walmart into a multinational retail firm that became the world's largest employer. Walmart's business model changed the way of life for millions of people around the globe by making food, clothing and household goods affordable to working-class families.

A favorite highlight of the museum is Walton's 1979 Ford-150 Custom pickup truck, complete with dents and dings. The truck has red and white paint, marred from years of driving through rough terrain on weekend hunting trips. Sometimes the hunting dogs rode with Walton in the cab of the truck, leaving behind deep pits in the steering wheel, the aftermath of the playful gnawing of Walton's favorite bird dog, Ol' Roy. Most billionaires prefer to drive Porsches to pickups, but Walton stayed humble despite his success. Visitors to the museum are encouraged to gently rub the pickup's chrome door handle to gain the gift of frugality. Like with the mismatched tile years before, the old truck was a practical choice.

Sam Walton's 1979 Ford 150-Custom pickup truck is on display in the museum.

Museum patrons leave through the 1950s retro-themed Spark Café Soda Fountain.

ORGANIZATIONAL CONTEXT

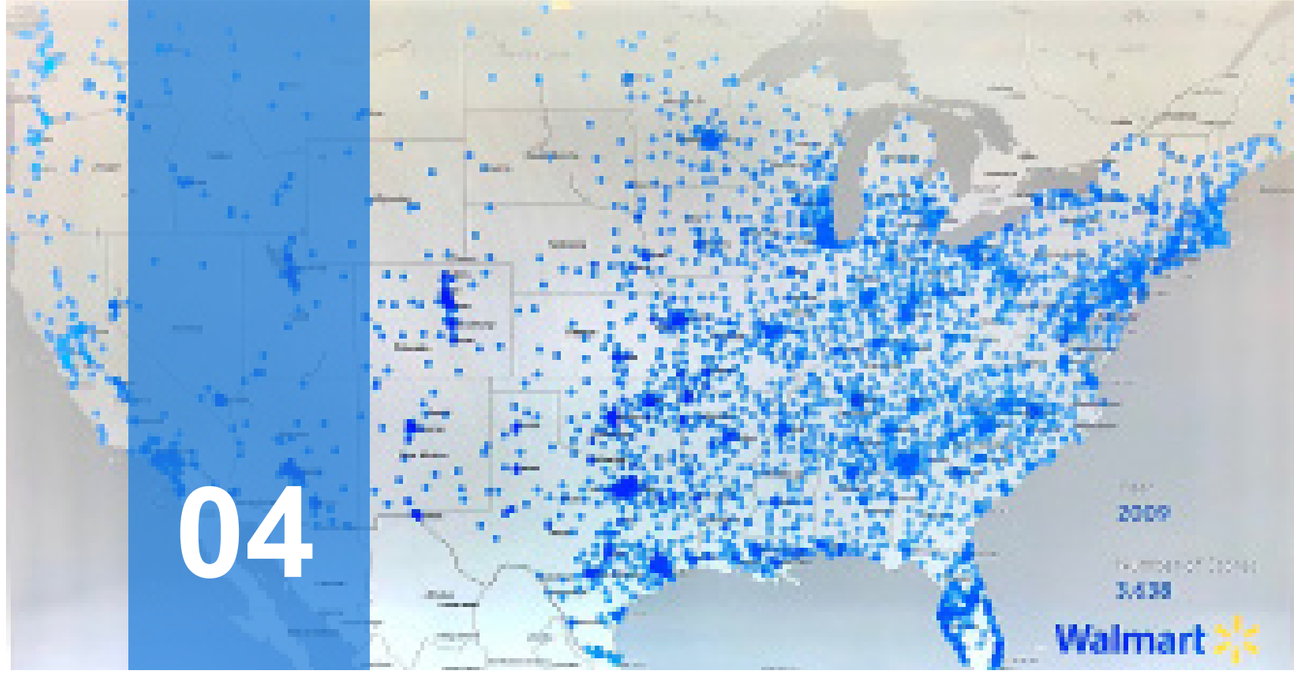
The Walmart Museum, which opened in 1990, welcomes visitors from around the world. When the museum first opened, it was called the Walmart Visitor Center, but Dranow jokes that weary travelers would stop by the venue, looking for maps of Arkansas and brochures about area excursions. Eventually, "Visitor Center" was replaced by "Museum," a more fitting description. The museum contains exhibits and artifacts that take guests through the history of Forbes' No. 1 company. There is no charge for a self-guided tour of the museum, which takes about an hour. The museum's clientele

includes a global audience of Walmart associates, vendors, business travelers, school children, area residents, and tourists. During the pandemic, the museum offered only virtual tours. Months later, in-person tours were given by appointment only. The venue has now fully reopened to walk-in guests. It's open seven days a week, from 10 a.m.-8 p.m. Monday through Saturday and from noon-6 p.m. on Sunday.

Housed in the original Walton's Five and Dime at 105 N. Main Street, the museum includes the retro-themed Spark Café Soda Fountain, with a menu bearing items such as the Supercenter Sundae and MoonPie Palooza. The café pays homage to Sam Walton's love of ice cream. In the café, a soda jerk serves up Yarnell's ice cream, made in Searcy, Arkansas. According to the museum's website, "Albert Yarnell, founder Ray Yarnell's son, remembers the days of delivering ice cream with his dad to Sam Walton's Ben Franklin store in Newport, Arkansas. Yarnell's was the very first ice cream Sam ever sold, so the tradition has been kept alive at The Spark Café." Sam's favorite flavor of ice cream was Butter Pecan. The café also serves Spark Cream in blue and yellow scoops, the colors of Walmart. All of the items, including some sugar-free options, come at old-fashioned prices.

I am interested helping The Walmart Museum with the learning space because I believe the museum's role in documenting the roots and rise of one of the world's most influential corporations is important. My capacity as an educator and my background in curriculum development and pedagogy add to the appeal of this project.

The Spark Café Soda Fountain has a vintage style and friendly soda jerks.



A display at The Walmart Museum shows how the company has grown over time. Research shows that interactive exhibits are more engaging.

LITERATURE REVIEW

In planning the educational aspect of The Walmart Museum, it is essential to examine empirical, theoretical, and practical research conducted at other museums and educational spaces. Through a review of relevant literature, I will examine the role of aesthetics and technology, including interactive and game-based play in the learning experience. I also will determine ways to make the exhibit inclusive and engaging for all visitors. I am focusing on four categories: learning, engagement, technology, and inclusion.

LEARNING

Field trips to museums that incorporate experimental learning and guided play motivate students through first-hand, proactive processes. Behrendt and Franklin (2014) found two of the most beneficial and inspiring learning methods for students are field trips and experiential activities, which create genuine learning moments, no matter the content area. Experiential learning is authentic, sensory-based learning, consisting of hands-on, dynamic exploration of visual, auditory, and kinesthetic, including dissembling and reassembling items (Behrendt & Franklin, 2014).

TERMS	DEFINITIONS
Museum	A building in which objects of historical, scientific, artistic, or cultural interest are stored and exhibited
Learning Space	A physical setting for a learning environment, a place in which teaching, and learning occur
Informal Learning	Learning that occurs away from a structured, formal classroom environment
Pedagogy	The method and practice of teaching, especially as an academic subject or theoretical concept
Interactivity	The process of two people or things working together and influencing each other

Table 1: Definitions of common terms found in the literature review

The National Research Council (2009) found that students who gain first-hand, genuine knowledge may develop attentiveness and inquiry that motivates them to learn more. Andre et al. (2017) studied learning at various museums and found that assisted play was inspiring for multisensory and proactive learning in art museums (Andre et al., 2017). According to Krakowski (2012), guided play is composed of unrehearsed or instinctive play attributes. However, it is teacher-directed and is used to educate.

About 80% of museums in the United States provide educational programs (Bowers, 2012) and spend more than $2 billion a year on education activities (American Alliance of Museums, 2009). Shaby and Vedder-Weiss (2019) contend that informal learning opportunities, such as those offered at museums, enhance formal classroom pedagogy. The hands-on activities, develop students' social and motor skills, and inspire students to learn (Itzek-Greulich et al., 2017; Lavie Alon & Tal, 2015).

Active learning takes place when pupils expand their minds to connect with the content and observations at hand. According to the Harvard Graduate School of Education (2005), museum guests apply active learning practices when they use available information—including knowledge from their own feelings, thoughts, and impressions—to form new concepts. Bringing their interpretations and experiences as they formulate personal connections to the information (Harvard Graduate School of Education, 2005).

According to Adams et al. (2008), museums are communal sites where visitors convene to experience, investigate, and expand their knowledge and recognition of the content that is displayed. While many experiences and outcomes take place in museums (Leinhardt and Crowley 1998, p. 4), visitors' dialogue is an organic process that researchers are finding to be a practical measure of the meaning, and therefore the learning, that can be gained from the museum visit (Adams et al, 2008).

With a broad collection of artifacts and creative activities, museums have evolved into stimulating educational settings, inspiring significant learning experiences (Isa & Forrest, 2011). Museums are embracing their function as spaces of abundant knowledge and understanding. The mission statements of many museums highlight their primary responsibility as an entity for public learning and education. Museums are actively moving away from passive, static exhibits to a more hands-on, interactive approach, which offers "life-long learning" and "educational leisure" (Ahmad et al., 2013).

Shaby et al. (2019) contend that there is a growing understanding of the significance of combining informal learning environments, such as museums, into formal curriculum (Shaby et al., 2019). The National Research Council (2009) maintains that schools cannot act alone in educating students, and communities must offer an assortment of learning experiences, including informal learning, in order to better educate students (National Research Council, 2009).

ENGAGEMENT

As the museum experience has moved away from static displays to more interactive methods, visitors have become more engaged in acquiring knowledge. When visitors interact with a space that promotes active individual content connection, their activity is not aimed at just receiving information but toward making a personal interpretation of museum artifacts and collections (Simon, 2010). According to Smith (2009), the varied outcomes of interpretative methods, including mobile devices and interactive labels, have helped museums become a more engaging experience.

Haywood and Cairns (2006) contend that through interactive exhibits, museums seek to offer entertainment while, at the same time, dispensing content that is educational and informative. Through interactivity, such as responding to questions or prompts on

screen by clicking buttons or flipping switches, visitors can determine the content the exhibit presents, thereby increasing engagement (Haywood & Cairns, 2006). Seyedmahmoud (2018) defines interactivity as the ability to take action and asserts that learning and engagement are critical to the success of interactivity, where the exhibit and the viewer connect.

Sandifer (2003) notes that visitors are first attracted exhibits because of sensory impulses or particular interest in or curiosity about the exhibit. Although, guests are drawn to an exhibit, that doesn't mean they are willing to devote additional time to it in the form of reading text, viewing objects, controlling interactive parts, or thinking about content. For this to occur, guests must be engaged enough to reach an all-encompassing state of mental and psychological stimulation (Csikszentmihalyi & Hermanson, 1995). When this happens, the exhibit function has become intrinsically provoking because the activity itself has become an engrossing, entertaining, or satisfying experience (Deci & Ryan, 1985; Schiefele & Rheinberg, 1997).

In addition to keeping visitors at exhibits longer, engaging exhibits can spark active learning, which has a deeper and long-lasting educational effect. The Harvard Graduate School of Education (2015) contends that students learn more extensively and remember information longer when they actively engage with the content and experiences at hand, even if the engagement is interspersed with instances of passive occurrences. This is a general fact about cognition, as true in museums as it is in schools (Harvard Graduate School of Education, 2005). Alt and Shaw (1984) concluded that the best museum exhibits make the content come to life, allow patrons to quickly comprehend the point of the exhibit, have something for all ages, and are distinctive. Conversely, they determined that exhibits are problematic if they are hard

to understand, lack information, have bad placement, or do not hold visitors' interests (Sandifer, 2003). Peart (1984) determined that exhibits with three-dimensional objects were able to attract and hold visitors longer than those with only words or pictures. Sandifer (2003), states that numerous researchers have found clear, interactive exhibits do the best job of attracting and holding museum visitors (Koran et al., 1984, 1986; Melton, 1972).

According to Shaby and Vedder-Weiss (2019), museum activities are usually more flexible than formal classroom learning so museums, which enables students to engage better with content (Shaby & Vedder-Weiss, 2019). Engagement and length of time visitors spend at exhibits often indicate that learning is taking place during visits (Sanford, 2010). Consequently, museum staff seek to extend visitor engagement with exhibits (Humphrey & Gutwill, 2017). For example, the Exploratorium in San Francisco uses a wide range of exhibit design plans and strategies to promote Active Prolonged Engagement. These tactics include fostering social interaction, offering creative opportunities, providing various activities, and imparting tasks solved by interplay with the display (Humphrey & Gutwill, 2017).

TECHNOLOGY

As museums look to increase learning and engagement for a generation at the forefront of ever-changing innovations, research on the latest technological advances is paramount. Ovallos-Gazabon et al. (2021) claim the main trends in improving the visitor experience at museums include interactivity, digital games, apps, QR Codes, and augmented and virtual reality. These innovations have provided more enjoyable and educational experiences, such as using interactive screens and digital games to deepen and extend learning.

Vaz et al. (2018) note several examples of creative uses of technology. One example is the Los Angeles Museum of the Holocaust's interactive exhibit, The Memory Pool, a multi-touch interface where content emerges on a table's surface. Pictures of people carrying out their daily routines before the Holocaust, such as interacting with friends, playing sports, and attending school, float in a virtual pool of water. When the visitor touches an image, the exhibit shows information about that moment. However, if there is no interaction with a photograph, the image will fade away, representing the loss of that memory (Potion, 2010).

According to Vaz et al., other examples are the Louvre's use of interactive tools, which allow viewers to download a map and take a virtual tour through the galleries with controllable 3D images and quick documentaries called "eye-openers" (Louvre, 2016). The Museum of Stolen Art lets viewers look at art whose whereabouts are unknown. It is a virtual space that displays stolen artwork that cannot be seen at any museum in the world. Virtual reality allows "visitors" to tour virtual galleries, view the stolen works and activate and pop-up instructional texts through an app.

In his museum study, Andre (2017) indicates advances in museum technology and networked learning have allowed educators and researchers to create the next generation of highly interactive blended learning environments, learner-centered, reliable, relevant, and entertaining (Andre et al., 2017). Technology can even allow patrons to personalize their museum experience. In her 2010 book "The Participatory Museum," author Nina Simon states that "visitors need to see how cultural institutions are relevant and valuable to their own lives, and the easiest way to deliver that is via personalized entry points that speak to people's individual needs and interests" (Simon, 2010, p. 35).

The Fine Arts Museum of San Francisco examined how the using a mobile app changed visitors' engagement with art. The app uses audio technology to create an immersive encounter featuring the voices of museum stakeholders, including curators, experts, and visitors as they construe the venue's art and architecture (Girardeau et al., 2015). The experience is customizable, as the app allows patrons to choose which viewpoints they would prefer to hear. It is also participatory, as visitors are prompted to add to their own voice recordings to the conversation. About 92% of visitors said they looked more closely at artwork and architecture while using the app.

A case study by Adams and Moussouri (2002) observed three museums in the United States, Canada, and Great Britain, where patrons were asked to compare their encounters in interactive spaces to those in traditional learning environments. The study found that "museum visitors value interactive experiences that enable them to engage in genuine exploration, follow their own interests and facilitate social interaction" (Adams & Moussouri, 2002, p. 3).

INCLUSION

Technology also can make it possible for visitors of all walks of life, including those

with disabilities, to experience the exhibits. According to Ng et al. (2017), museums have transformed into venues seeking social change through inclusion and diversity. A museum's ability to employ empathy toward its communities helps create an extensive, more powerful mission to the work of museums (Ng et al., 2017).

The informal educational aspect of museum learning can also play a role in providing students who struggle in the classroom or disadvantaged students with an alternative learning environment, and "a cultural fluency often only available to middle- and upper-income students, which can translate into opportunities to excel" (Lacoe et al, 2020, p. 1). Some museums take cultural heritage into account when developing interactive exhibits, as game designers consider the end user's perspective in decoding digital heritage. Museums are working with the game creators to incorporate a viewer's background into virtual environments to address context (Ćosović, & Brkić, 2020).

Not only are museums delving into ways to become more socially inclusive at the individual, community and societal levels, they are also increasing their accessibility to people with disabilities (Argyropoulos & Kanari, 2015). For example, the North Carolina Museum of Natural Sciences is designing a mobile app to enhance the understanding of visitors with certain disabilities. The app provides maps with audio and integrates a high-contrast alternative, so visitors with visual impairments can learn more about the museum's exhibits while moving throughout the space. For guests who are hearing impaired or are autistic, the app includes descriptions with pictures and closed captioning for videos, which heightens the overall viewing experience (Institute of Museum and Library, 2015, Vaz et al., 2018).

According to Vaz et al., the Art Institute of Chicago uses 3D technology to enable visitors to hold and touch 3D replicas of objects from the collection, to create "multi-sensory experiences for adults with Alzheimer's and low vision, where discussions and learning about the original works of art are promoted" (Association of Art Museum Directors, 2015, p. 8).

Today, museums are moving away from traditional norms of exclusivity and renew the relationship between the space and its visitors, with the intent of coming together "to enable a broader appreciation of the museum for all" (Olivares and Piatak, 2021).

The sociocultural and relational approaches to learning stress that understanding is a process influenced by an individual's experiences, culture, and relationships.

CONCEPTUAL FRAMEWORK

This capstone project examines the learning space through incorporating the conceptual framework of sociocultural theory. The sociocultural approach identifies society and culture as key factors in shaping cognition. Social customs, beliefs, values, and language are all part of what shapes a person's identity and reality (Vygotsky, 1978). Therefore, the way someone assimilates information is based on their sociocultural background, which should be considered when designing an educational space. This relational approach examines the use of mutual engagement in learning. For learners to gain knowledge effectively, it is vital to actively take part in the pedagogical process (Edwards et al., 2013).

As discussed earlier in this paper, with experimental or guided learning, educators can direct students to a specific event, and then assist the students in reflecting to "increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities" (Association for Experiential Education, 2012, p. 5). Socially mediated learning at museums can also occur through interactions with well-informed adults, including parents, curators and teachers using scaffolding techniques (Andre et al., 2017). Therefore, relational theory, or the relationships between learners and their surroundings, contributes to the educational process.

According to the Museum Learning Collaborative, sociocultural theory can comprise a wide assortment of informal learning environments that museums provide and their diverse populations of visitors because it focuses on both similarities and differences in visitors' learning (Museum Learning Collaborative, 2002). Gioftsali (2003) contends the sociocultural and relational methods of learning in museums entails face-to-face interactions, along with content and the organization of the displays. In other words, museum staff and their interpretations are combined with those of the visitors (Gioftsali, 2003).

An example of an educational program that helps he American Museum of Natural History's pedagogical approach focuses on providing visitors with learning experiences Instructors give guidance in educational museum programs are guided by instructors who help young visitors make connections to what they are seeing and other experiences, objects, and living things as they learn (American Museum of Natural History, 2019).

Research has contributed to important changes at museums, but according to Andre et al. (2017), educational gaps connected to learning experiences in museums still exist. For example, there is the need to examine a visitor's background and motivation in museum learning (Falk and Dierking, 2000). Sociocultural theory recognizes that one's past experiences and culture impacts how content is processed (Gioftsali, 2003).

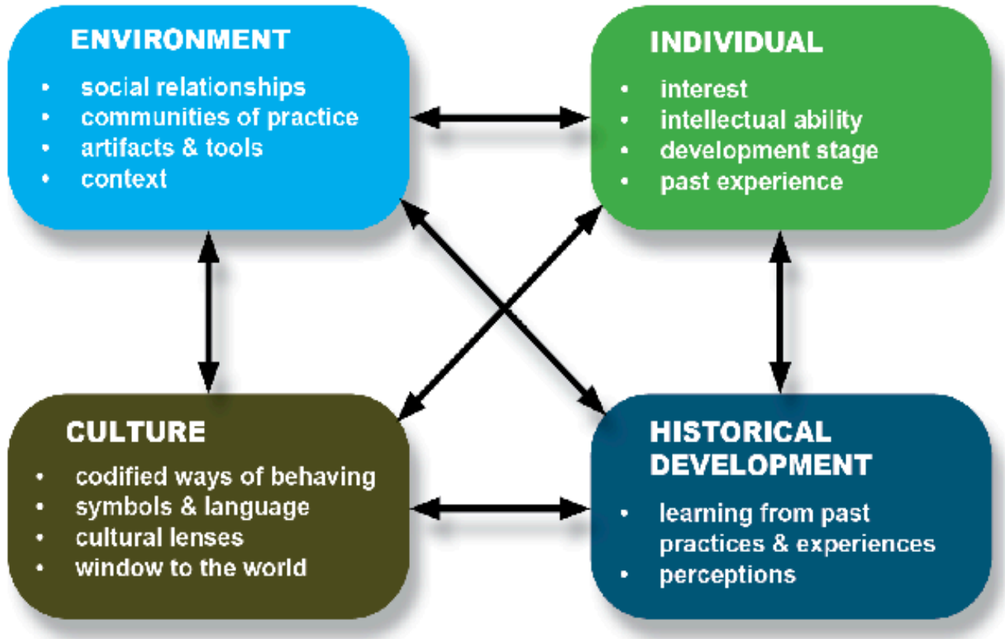


Figure 1: Sociocultural framework. Adapted from a dissertation by Lynda Kelly on ResearchGate.

Seyemahmoud (2018) agrees that each museum patron is connected to distinctive and individual sociocultural constructs, which makes the meaning making personalization process unique to everyone. Learning must present experiences that are suited for the vast diversity of visitors. A truly interactive learning experience must address personal, physical and social contexts (Seyedmahmoud, 2018).

Shaby and Vetter-Weiss (2019) assert that identity-construction is a key part of learning with a sociocultural approach. By taking part in the process, participants learn to engage in practices and discourse of the content, and they learn how to contribute and identify with groups that share these practices and discourse (Lave & Wenger, 1991).

06

PROJECT DESIGN

For this study, I used a mixed methods approach of collecting data through conducting an 18-question survey (Appendix 1) and subsequent follow-up interviews. This approach allowed me to incorporate data collection and analysis to examine the three project questions. I gathered 272 responses to the quantitative survey, which included multiple choice, open-response and Likert scale questions. Faculty and students of Haas Hall Academy, a charter school with four campuses across Northwest Arkansas, completed the survey. The participants consisted mostly of 11- to 18-year-old students in grades 7-12, with a few educators responding as well.

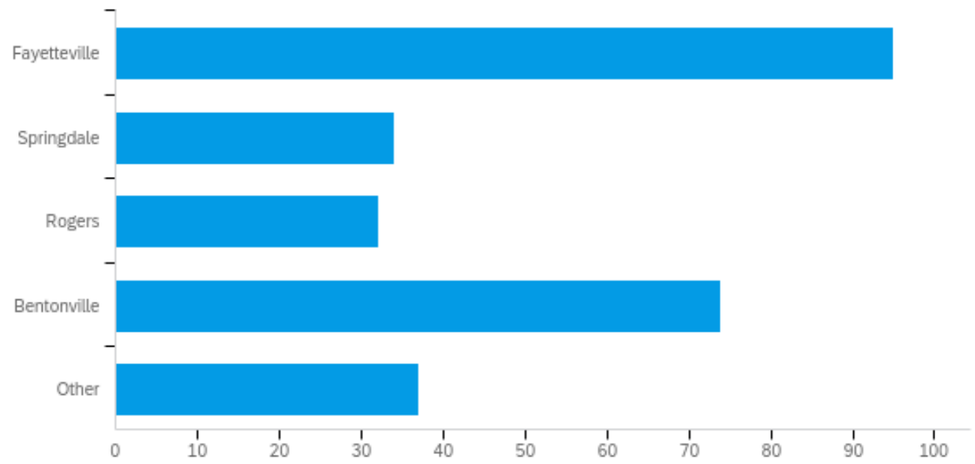
SURVEY ANALYSIS

I surveyed the Haas Hall Academy community because I am a faculty member there, and I had access to numerous students and faculty members. I also saw it as an opportunity to reach a varied population. The four campuses span diverse ethnic and socioeconomic demographic areas of Northwest Arkansas, including the cities of Fayetteville, Bentonville, Rogers, and Springdale. The Fayetteville campus is the largest with nearly 500 students, and nearly half of the respondents attend this campus.

I used descriptive statistical analysis to aid in understanding the survey results. I collected the survey responses anonymously, but the survey included demographic content that I used to determine trends among museum visitors. These demographic questions served to identify survey participants' museum age group, geographic location, learning styles, attendance habits, and whether the participant has a disability. The survey also asked questions about technology use and preferences and asked open-ended questions about ways to make The Walmart Museum more engaging and inclusive. The figures below show the demographic breakdown of the 272 survey responses.

Many students at the Fayetteville campus are children of professors at the University of Arkansas, which is only about five miles from the school. The Bentonville campus is in an affluent area, and many of the students are the children of Walmart executives and employees. Students who attend the Rogers campus mainly come from lower middle-class families. Most students at the Springdale campus are from poorer backgrounds, often with parents who work at area chicken plants.

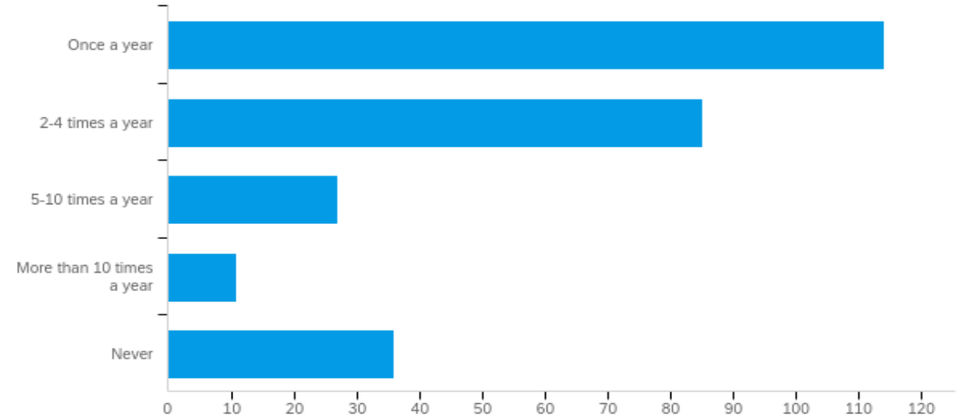
What city do you live in?



Understanding the demographics of the cities helped me to determine the socioeconomic circumstances of the respondents. Nearly 35% of the participants were from the Fayetteville and 27% lived in Bentonville. Springdale and Rogers were home to 12% and 11% of respondents, respectively. In addition, 13% of participants said they live in surrounding suburbs, including Lowell and Bella Vista.

To help me gain a deeper knowledge respondents' socioeconomic status, I asked about the highest level of their parents' education. Nearly 35% said at least one of their parents have a master's degree, 23% have a bachelor's, and 17% have doctorates. Almost 10% said their parents have some college, while nearly 7% answered that their parents' highest degree was a high school diploma or GED.

How often do you go to a museum?



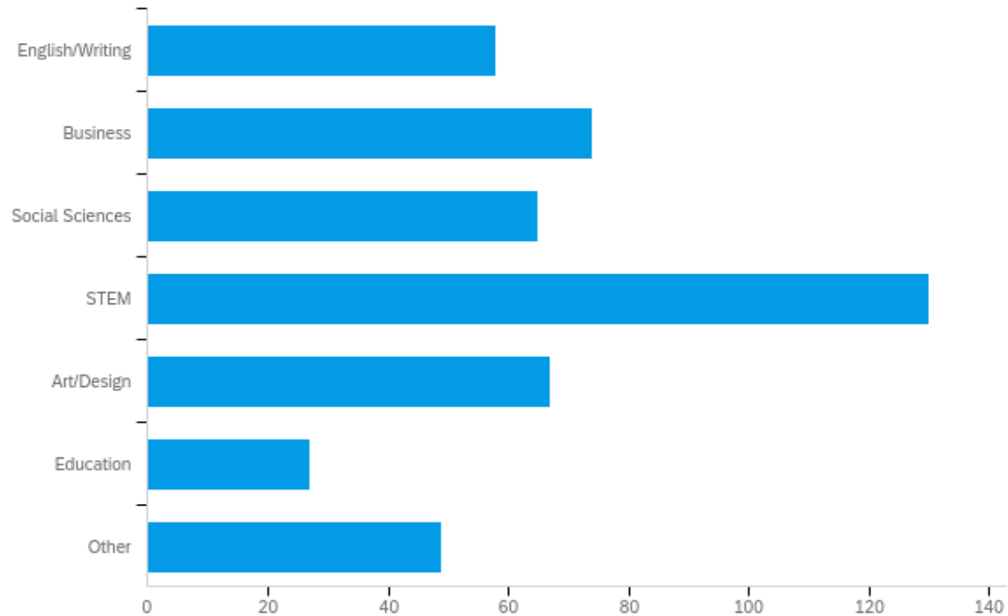
The difference in the ideal length of a museum learning experience came down to one response. With 78 respondents (28.5%) saying they prefer a length of 30 to 45 minutes and 77 people (28.2%) want the experience to last from 20 to 30 minutes. More than 20% lean toward a length of more than 45 minutes, while 15% enjoy a 10- to 20-minute time slot. Only 7% want an experience that lasts under 10 minutes. Additionally, almost 42% of those surveyed said they visit a museum once a year, 31% said they go to the museum two to four times a year. Moreover, 13% they never visit a museum, while nearly 10% go to a museum five to 10 times a year, and 4% visit more than 10 times a year.

The ethnic makeup of the responds was 61% white, 18% Asian, 11% Latino/Hispanic, 3% Native American, 2% African American and 2% Middle Eastern. When asked about gender, 48% listed their gender as female, 44% male, 3% nonbinary, and 4% other. In addition, 10 respondents said they had a disability and 23 preferred not to answer. Most of the respondents (67%) spoke only English, 25% spoke two languages, and 8% spoke three languages or more. Many respondents were juniors and senior, but all grades 7-12 were represented in the survey. Faculty members made up the "other" category.

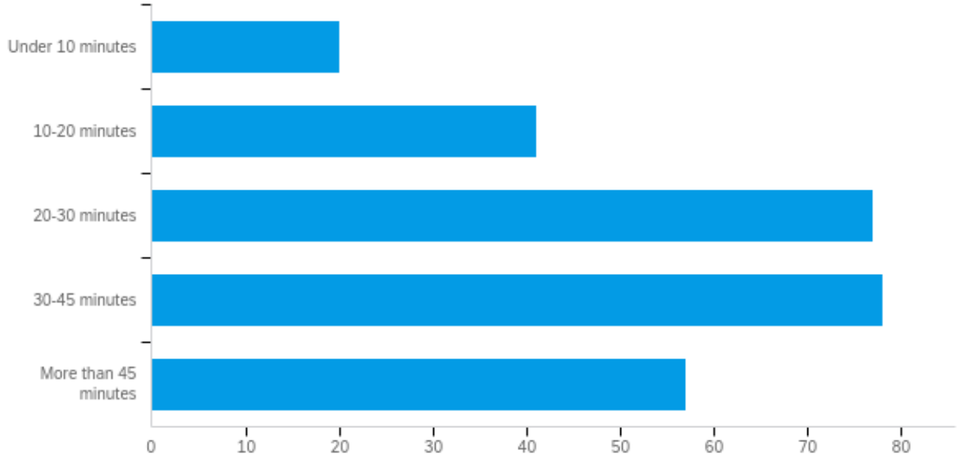
Of the 272 respondents, slightly more than half of the respondents said they preferred a self-guided tour with someone available to answer questions. Whereas 26% said they preferred a completely self-guided tour. Just over 13% opted for guided tours and nearly 10% wanted to use headphones or tablets while touring.

I also inquired about the participants' academic preferences. The majority, nearly 28%, want to undertake a career in a STEM field, while 15% lean toward business. Art and design received only one more response than social sciences, with 14.4% and 13.8%, respectively. More than 12% said they are interested in majoring in English or writing, and 5% hope to pursue a job in education. Slightly more than 10% chose other as their response, and listed fields such as music, law, and culinary arts.

What area of study are you interested in?



What is your ideal length of a museum learning experience?



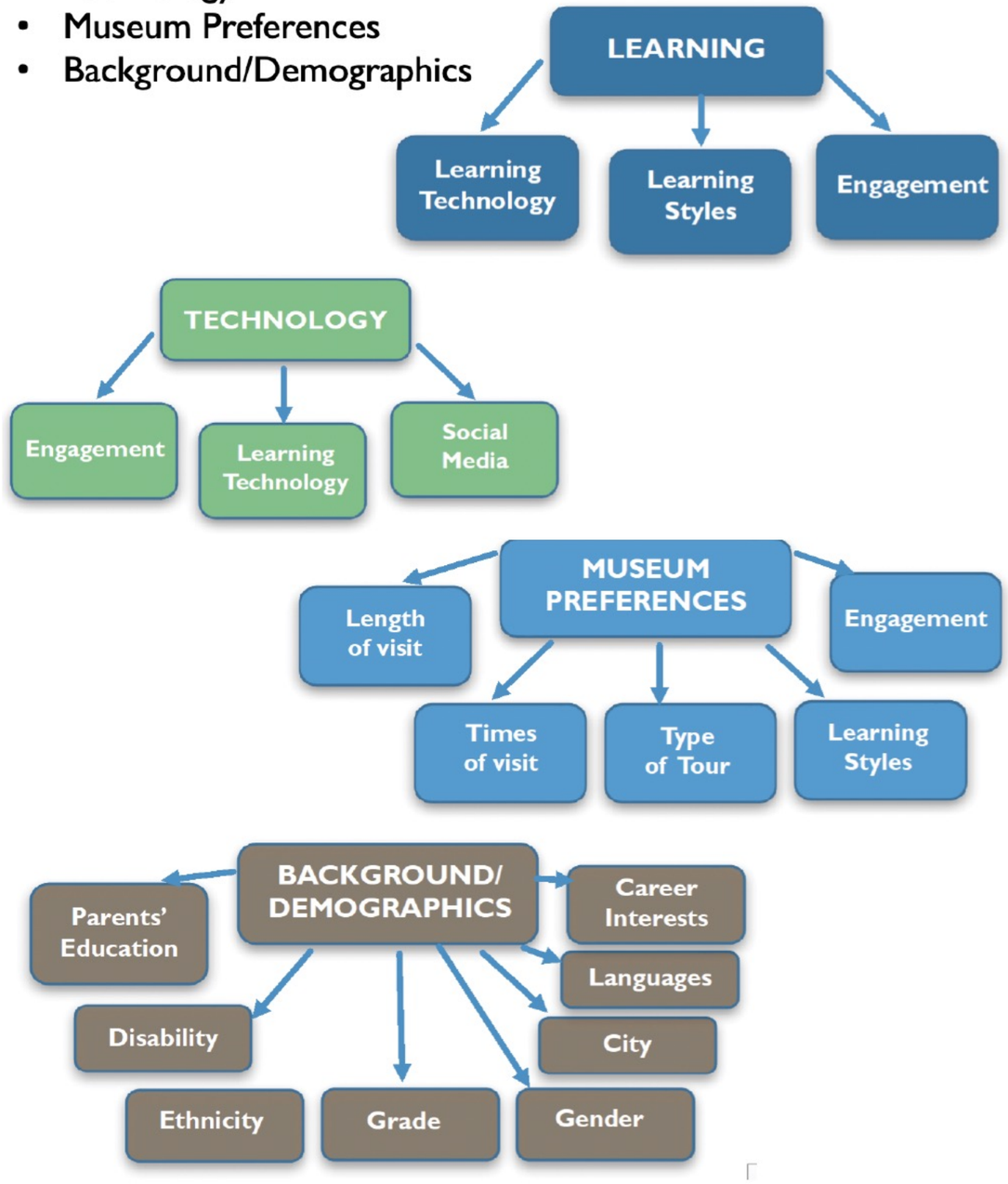
When inductively coding the data, I found there were four themes of the areas of inquiry: technology, learning, museum preferences, and the participants' background and demographics. Within these themes, I inquired about the four areas from the project questions of learning, engagement, technology, and inclusion.

The four themes I found while coding were not planned as I was determining survey questions. However, the categories of background and demographics, museum preferences, technology, and learning are experiences connected with the sociocultural and relational frameworks. Museum visitors bring with them those past experiences and relationships when gathering and processing new information. Some of the areas fell under multiple themes. For example, engagement fit into three of the four categories. Questions about engagement fell under the themes of learning, technology, and museum preferences. Learning technology was included in the themes of learning and technology. While the themes of learning and museum preferences inquiries about learning styles.

Some themes emerged later from interview questions. For instance, when I asked if museum spaces are useful, many respondents had similar answers that included phrases about the importance of museums offering information that schools do not. When I asked specific questions about Walmart and the Waltons, a theme appeared of Walmart springing from a rural and poor part of the country. In addition, most respondents spoke of how the Walton family gives back to the Northwest Arkansas community by providing funding for education, the arts, and the environment.

CODING (4 THEMES)

- Learning
- Technology
- Museum Preferences
- Background/Demographics



SURVEY QUESTIONS

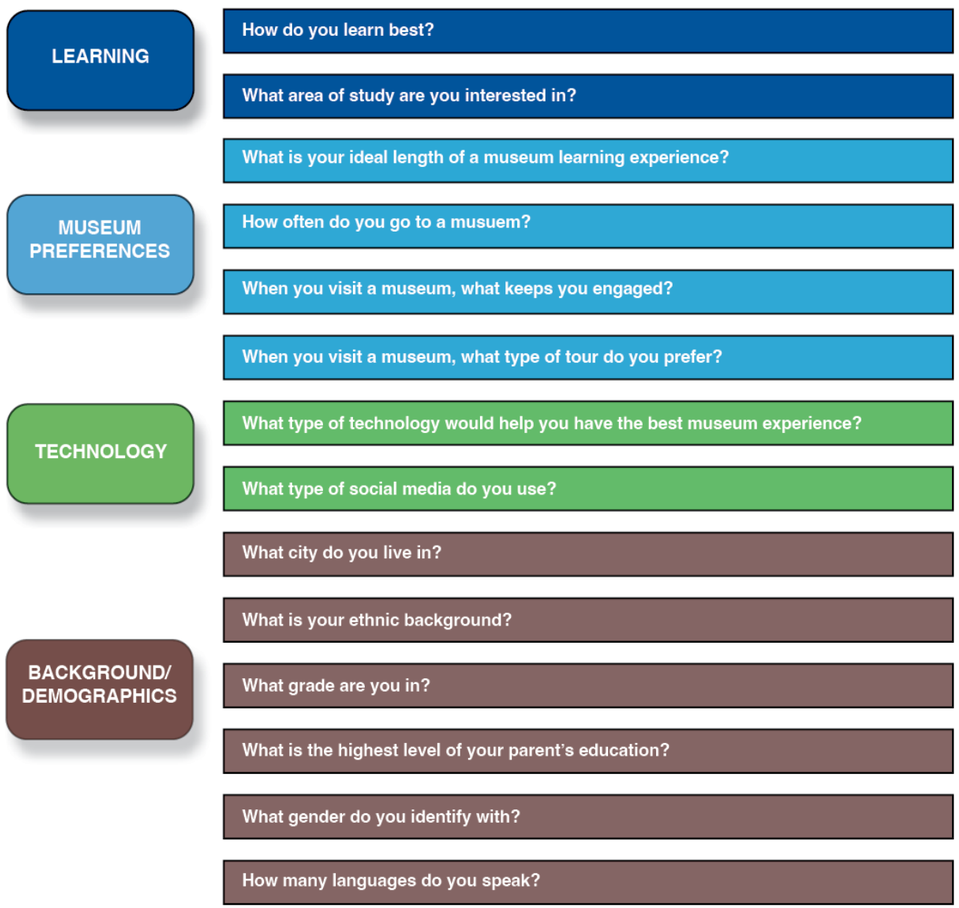


Figure 3: Coding chart of survey responses.

INTERVIEW RESPONSES

In addition to the survey, I collected qualitative data by conducting semi-structured interviews (Appendix 2) with eight students ages 15 to 17, in grades 10 and 11. I asked questions, which expanded on the survey responses. While I asked the same questions of each interviewee, I posed additional questions based on the answers. During the interviews, I asked specific questions about technology, engagement, and inclusion, and I included questions about Walmart, the Waltons, and business interest and leadership.

The interviews allowed me to take a deeper dive into the data I collected from the surveys. For example, while the survey indicated most of the respondents find interactive surfaces as the technology that offers the best museum experience, the interviews wielded specific examples. For instance, one interviewee talked about a display at the World War 1 Museum in Kansas City, saying, “There is also a 20-foot-long interactive table showing a timeline of the war, where each highlighted point has a button to press which explains the event on the timeline and the context around it.”

When coding the questions for the interviews, I found that some of the themes either changed or were modified to accommodate the more specific questions. Since I knew the respondents to the interviews, there was no need for questions about their background and demographics. I had their identifying information, so the demographic data was not necessary. The theme of background and demographics was replaced by a theme of Walmart and the Walton family. When conducting interviews, I determined that the perception about the Waltons and the Walmart chain is important in creating successful activities and exhibits.

While the learning theme remained, I narrowed the scope. The survey questions about learning were more general, focuses on inquiries about learning styles. However, the interview questions about learning specifically related to business, including entrepreneurship and leadership. These responses are key to shaping the content of the learning space.

The interviews kept the themes of museum preferences and technology. Although, I expanded the number of questions about museum preferences, moving away from the general questioning such as “What is your ideal length of a museum learning experience?” and “How often do you visit a museum?” Instead, I opted for more a more specific line of questioning such as: “What was your favorite experience at a museum, and why?” and “How can a learning space at a museum be inclusive?”

The open-ended element of the interviews allowed me to gain more details about technology. Through interviews, I was able to obtain examples about preferred technologies. In contrast, the multiple-choice responses to the survey only gave me a broad assessment.

INTERVIEW QUESTIONS

Figure 4: Coding chart of interview responses.

Below is a matrix with pseudonyms of those interviewed. I will refer to the interviewees by their pseudonyms in the findings. I included quotes in the matrix about why the interviewees believe museums are important. Many believe an important aspect of museums is that they can offer information that is often not taught in schools.

NUMBER	PSEUDONYM	KEY QUOTE
Interviewee 1	Jake	"They are an inviting place for all to learn more, especially information that schools never taught. Museums offer deeper explanations and understanding to real world events and are therefore very important in offering the most education to as many people as possible."
Interviewee 2	Adrian	"I believe museums hold an immense value to communities in their ability to convey lessons regarding art and history in a manner that literature alone cannot. Interactive spaces, such as that proposed for the Walmart Museum, serve to further this purpose."
Interviewee 3	Emily	"I think museum learning spaces are helpful. In many cases, museums teach information that schools do not teach. Schools are limited in the amount of history that can be taught, and a lot of information is false or not spoken in total capacity. Museums teach in a fun and interactive way to get information across to its listener and often use more engaging tactics to help the audience retain information."
Interviewee 4	Elizabeth	"I think they can be extremely useful. What separates museum learning spaces from other educational facilities is that skills can be taught within a certain context. At the Walmart learning center, people will not only be able to learn useful information about business and economics, but also be able to learn about it through specific examples in Walmart."
Interviewee 5	Jade	"Museums are useful because they allow people to be immersed in topics that they otherwise would know little about. Even when museums are about well-known topics, they manage to convey their information in a comprehensive way that other educational institutions can't."
Interviewee 6	Jordan	"Museums provide public learning spaces that people explore for free or low cost and are very valuable to the community."
Interviewee 7	Gabe	"Museum learning spaces and museums are extremely useful. I think that they benefit our community in a small way but have a very large positive impact. I think that it's important to continue to advance and build such spaces because if we do not, they will go out of trend and will fall out of business."
Interviewee 8	Holly	"I definitely think that museum learning spaces and museums are useful. I've been going to museums since I was in elementary school, and they've always been a great learning aid when we had to do assignments on different subjects."

Table 2: Coding chart of the eight interviewees.

Sam Walton's office is on display at The Walmart Museum. By implementing interactive technology, this display can become a customizable experience for each patron.

FINDINGS & RECOMMENDATIONS

After I created the coding scheme, I analyzed the survey and interview responses through the lens of the project questions and theoretical frameworks. Through my quantitative and qualitative research, I was able to find answers to the project questions. I also incorporated research collected from my lit review into my findings. Next, I examined the results of the data through the lenses of sociocultural relational theories and determined recommendation to create an inclusive and engaging educational space at The Walmart Museum.

QUESTION 1: What types of educational programs are best at helping museum visitors acquire knowledge and understanding of Walmart and the Waltons?

FINDING 1

Interview and survey responses indicate that watching, discussing, and touching are the best ways to learn.

Interviewees gave examples of varied learning activities from logo design to a seeing a visual representation of how much the Walton's wealth grow per hour. This finding backs up the survey answers of watching, discussing, and touching as the best ways to learn. In the survey, more than 72% of respondents said they learned best by watching, nearly 57% said discussing was the optimal way to learn, and more than 49% answered touching. Respondents ranked reading as the least effective way they learn. The activities in the museum's learning space need to be implemented in the context of sociocultural and relational theory of how past experiences and relationships influence the learning process. When creating displays and activities, the museum can incorporate programs that consider visitors' backgrounds, experiences, and varied learning styles.

How do you learn best?

	Very Much		Somewhat		Not at All		Total
By touching	49.26%	134	40.81%	111	9.93%	27	272
By reading	36.16%	98	53.87%	146	9.96%	27	271
By listening	46.49%	126	47.97%	130	5.54%	15	271
By watching	72.43%	197	25.00%	68	2.57%	7	272
By discussing	56.83%	154	37.27%	101	5.90%	16	271

Table 3: Survey results of how respondents learn best.

Interviewees spoke of types of programs that would interest them in the new educational space. As far as specific subject matter, when asked what topics they would like to see explored in the museum, Jake referenced of Sam Walton's early experiences. "I would like to see the story told of how Walton began the first Walmart. The hardest part of entrepreneurship is being brave enough to take a risk with your own money, and it would benefit people to hear Sam Walton's story of how he had the same experience."

Like Jake, Emily also referenced learning about the Walton's past. "I would like to see the history of the Walton family. It would also be interesting to see visual representations. For example, how their money grows per hour compared to a regular family and videos of their distribution of wealth towards local businesses and the colleges."

Adrian went onto talk about a hands-on activity. "I believe it would be both enticing to visitors and relevant to the subject of the museum itself to create a learning space incorporating some aspect of brand or logo design. Allowing visitors to incorporate their own creative ideas through the exhibit itself is, in my experience, the best way to garner interest in a museum space."

The family's religion was an area of interest for Holly. "I would love to see more about religion. I feel like we don't learn enough about religion, and it tends to be a very important topic especially since there are so many of them."

Most of the interviewees had similar responses when they were asked about what interested them most about Walmart and the Walton family. They wanted to know how Sam Walton came from such humble beginnings to grow the company into the huge corporation it is today. One word that came up in almost every quote was success. Jake pointed out that Sam Walton built his retail dynasty from a small store in Arkansas, an impoverished, rural state. "What interests me most about Walmart is how such a large company grew out of a historically poor and unimportant area. Many companies are based out of large population centers that are known for having an economy to support these companies, so I would find it very engaging to learn what Northwest Arkansas has done to support Walmart and how or if Northwest Arkansas has been effective in supporting the company."

Not only did Walmart spring out of a poor state, but Emily contends the amount of wealth Walmart has brought to the Walton family, and in turn, to Arkansas is beyond belief. "The Walton family's wealth interests me. The Walton family is worth over a billion dollars due to the significant success of Walmart. The Walton family's wealth is reportedly increasing by four million every hour. Their wealth almost seems unreal until you realize that Walmart is widely used, especially in Arkansas. I also would be interested in learning about how a billionaire family would use their wealth and which families are the richest."

Moreover, Elizabeth questioned why Walmart became so successful when other stores did not. "I think it's fascinating how Walmart became so successful when it had such humble beginnings. There are plenty of small businesses that began just like Walmart did. But, some factor existed that allowed Walmart to become so successful while other stores did not. I'm curious why Walmart has had so much success, and what the Waltons plan to do with the cooperation now that it's so powerful."

RECOMMENDATION 1

Feature interactive displays, which include components that visitors can see and touch.

Research has confirmed that interactive exhibits engage visitors' attention longer than exhibits that are not interactive (Sandifer, 2003). The link between teaching style and targeted learning outcome shows students must be actively engaged in learning to gain higher order thinking skills and better comprehension (Lord, 2007). Leinhardt and Crowley (2002) contend objects in museums present content not obtainable in two-dimensional images or texts. For example, for visitors who experience a sense of scale or size and an association to real events or people, the museum encounter more significant.

Andre et al. (2017) indicates advances in museum technology and networked learning have allowed educators and researchers to create the next generation of highly interactive blended learning environments, learner-centered, reliable, relevant, and entertaining. For example, interactivity that involved interactive computerized simulation activities (a 3D virtual brain tour combined with a video game format; Cheng et al., 2011) was discovered to be a highly successful teaching and learning tool for increasing the neuroscience literacy among children (Andre et al., 2017).

Interactive museum exhibits can produce sensory ties to the social, cultural, scientific, political, and historical understanding they symbolize. Technology, which offers chances for experiences with physical, tactile objects, ca n make the acquisition of knowledge even more important (Tran, 2007). Interactive displays can assist visitors in retaining information by implementing education into stimulating activities. The procedures of taking part in the action allows participants to use their senses and helps them remember information (PLB, 2019).

Based on my survey and interview responses, participants prefer interactive displays that involve touching and watching. Respondents favored interactive, three-dimensional content. Some specific examples, which the museum can utilize would be holographs, interactive tables, and a display showing how much the Walton's fortune grows every minute.

Sam Walton's office is an example of how using technology to change a static three-dimensional display into an interactive, personalized exhibit. Through interactive technology, visitors can push buttons to find out details about items in the office. For instance, a viewer can click on a book on the bookshelf, a newspaper, or a statue. When the visitor choses and item, a photo of that item will emerge, along with information about it.

QUESTION 2: How can the learning activities at The Walmart Museum be designed so they are inclusive to all patrons?

FINDING 2

Interview responses indicate the need for learning spaces to address all age groups and genders. These spaces must also consider non-English speakers and people with physical and learning disabilities.

Antoniou and Lepouras (2010) contend museum exhibits must meet the needs of various types of visitors and the assortment of learning technologies can be hindered by two key problems. First, most guests might only visit once. Secondly, a typical museum visit only lasts for a few minutes (Falk et al. 1985; Serrell, 1998). However, the implementation of a customized experience may help offset the issue of restricted time and may more generally enrich the experience of any visitor if customized correctly (Antoniou & Lepouras, 2010).

Interview participants spoke about the importance of an open, accessible space with guides to answer questions and help when needed. Exhibits should also be customizable for non-English speaking visitors. Accounting for sociocultural and relational frameworks is essential when to designing inclusive educational programs. Visitors have different physical, mental, emotional, cultural, socioeconomic, and learning traits and experience, which will play into how the visitors process the space.

Jake contended museum spaces should be open and accessible to everyone. "I find that a learning space in a museum feels most inclusive when it's not blocked off by walls or in its own separate room. An inclusive learning space should be on a level floor where anyone can see it. A visitor is far more likely to explore an open exhibit on a common floor than walk into a theater in a separate room."

In addition to open spaces, Adrian said that educational spaces need to focus on various age groups, not just children. "I've found in the past that interactive museum exhibits tend to be targeted towards younger children. I believe it would be greatly beneficial to the museum and visitors alike to incorporate activities directed towards a diverse range of age groups into the new learning space.

Elizabeth stressed that objects and materials should address visitors with disabilities and those who speak languages other than English. "The learning materials should be made with various circumstances in mind (videos should have subtitles for people who are hard of hearing, signs should have separate captions in braille, entrances should be wheelchair accessible, etc.). Additionally, resources should be produced in different languages to accommodate those who don't speak English. After the center is opened, supervisors should monitor what kinds of people are attending and take note of who isn't. This way, the center will know what improvements can be made."

Like Elizabeth, Jade also mentioned patrons who don't speak English. "Having exhibits be accessible to non-English speakers and people with audio or visual impairments helps make a museum more inclusive."

Gabe stated the importance of creating a space that is inclusive to all genders, ages, and learning styles. "It can be inclusive by making it accessible and designed for people of all ages, genders, and learning styles. For instance, maybe people could customize how they learn about a certain topic in the learning space. That way, they feel as if the learning was customized to their liking, which would help the space to be overall more inclusive."

In an open-ended survey question, several respondents listed disabilities, such as dyslexia and autism and said they wanted a space that was not overly loud or flashy. One responded said, "I don't have disabilities, but my sister has autism and cerebral palsy, and museums are often very hard to get in and out of, whether that's a lack of ramps and bad parking spaces or doors that are hard to open."

RECOMMENDATION 2

Implement clear, jargon-free signage and have apps or guides available for non-English speakers.

In addition to protectors of valuable and significant objects and history, museums are the actual spatial elements, the design and layout, colors and light, producing an environment that engulfs visitors as they move through museum spaces (Simonsson, 2014). When planning educational spaces, museums must create an atmosphere that is inclusive for all, addressing the needs of all visitors. The Wallace Foundation contends that aspects, which can affect a visitor's experience in a positive way, include having information readily available, labels and wall text that are legible and jargon-free, and incorporating adequate lighting and signage.

According to Centers for Disease Control and Prevention (2018), 61 million or 1 in 4 adults in the United States live with a disability. It is important for museums to encourage active participation from all patrons, including those with disabilities. Norman et al. (1998) cite research that indicates growing support for people with disabilities to take part direct, hands-on learning. In a survey to given to science educators, only 9.9% of the teachers reported agreeing that students with disabilities should act as observers instead of active participants when conducting a science experiment (Norman, Caseau, Stefanich, 1998).

While museums should promote hands-on participation for disabled people. When designing a museum space, physical accommodations should be taken to include people with disabilities. Below are guidelines some guidelines that can help accommodate museum visitors with disabilities.

IMPAIRMENT	ACCOMMODATION
Blind and visually impaired visitors	Tactile guide paths, secured stairs with handrails and visual contrasting non-slip stairs, audio information, Braille plaques
Deaf and hearing-impaired visitors	Assistive listening devices, audio induction loops, visual information
Visitors with reduced mobility	Lowered counters at information desk, restaurant and shop, courtesy wheelchairs, ramps and elevators, large spaces for wheelchair users, wheelchair seating areas
Visitors with cognitive impairments	Universal pictograms
Visitors in the autism spectrum	Quiet places

Table 4: A list of accommodations that should be implemented at museums.

In addition to accommodating people with disabilities, making information accessible for patrons who are non-English speakers is also essential in making the content inclusive to all. Signs with symbols can direct non-English speakers around the museum. Translations to commonly spoken languages, such as Spanish can be placed next to English texts. Translating signage, brochures, and other informational materials are a practical way to reach non-English speaking audiences. An article by the Guggenheim Museum, stated the museum has an app that features audio stops in nine languages. The Museum of Modern Art (MoMA) posted on social media that their bilingual staff members wear pins, indicating which languages they speak.

When undergoing an expansion, the Heard Museum in Phoenix, Arizona, created a new system of signs to guide people through the venue. According to the museum's former director Martin Sullivan, "Photographs of key objects in galleries are used as icons on the signs." He also said the museum implemented signs with bigger labels, larger type, and easy-to-read fonts (Lila Wallace-Reader's Digest Fund, 2000).

QUESTION 3: What technologies and methods can help The Walmart Museum engage and maintain interests of learners?

FINDING 3

Survey and interview responses indicate museum visitors will stay engaged in spaces that are interactive and with guides available to answer questions.

As for technology that would create the best museum experience, most respondents chose interactive surfaces followed by holographs. While the survey answers were helpful, the interview questions allowed students to give much more detailed answers and to include specific examples. So, interviews were able to expand on the information gained from the surveys. As I evaluated the interviews, I noticed many of the answers had the same themes or connections.

Jake finds interactive objects to be engaging. “When I’m at a museum, the technologies that help me learn the most effectively and are the most engaging are physical objects, and interactive surfaces such as large screens that one can manipulate.” Interviewee 1 went on to give a specific example of a time he was engaged at a museum. “At the WWI museum in Kansas City, my favorite detail is that the museum has so many objects from the war. There is also a 20-foot-long interactive table showing a timeline of the war, where each highlighted point has a button to press which explains the event on the timeline and the context around it.”

Like Jake, Emily believes interactive technology is the most effective way to keep participants engaged. “Interactive, hands-on technology helps people learn best. In my opinion, technology that you can physically interact with is the best when learning new information, which keep the learner’s attention by forcing them to interact with the new information.”

Adrian agrees the interactivity will keep a museum visitor engaged. “In my experience, the best learning technologies are those that allow users to use the provided tools as they wish, providing outlets for creative expression, and allowing users to meld their own ideas with the information presented to them. My greatest example of this is from my early childhood experience with Starfall.com, where I learned basic conventions of the English language through Mad-Libs-like games with enticing visuals.”

However, Elizabeth believes combining technology with conventional education is the best way to optimize engagement. “I think it’s important to have a balance between modern technology and more traditional educational material. I’ve always been more of a visual learner, but other people have their own unique ways of learning; learn. Everybody learns differently, and to forms of stimuli. From hands-on activities to video and audio material, to books, to tablets, to projections, there should be many different methods to communicate ideas.”

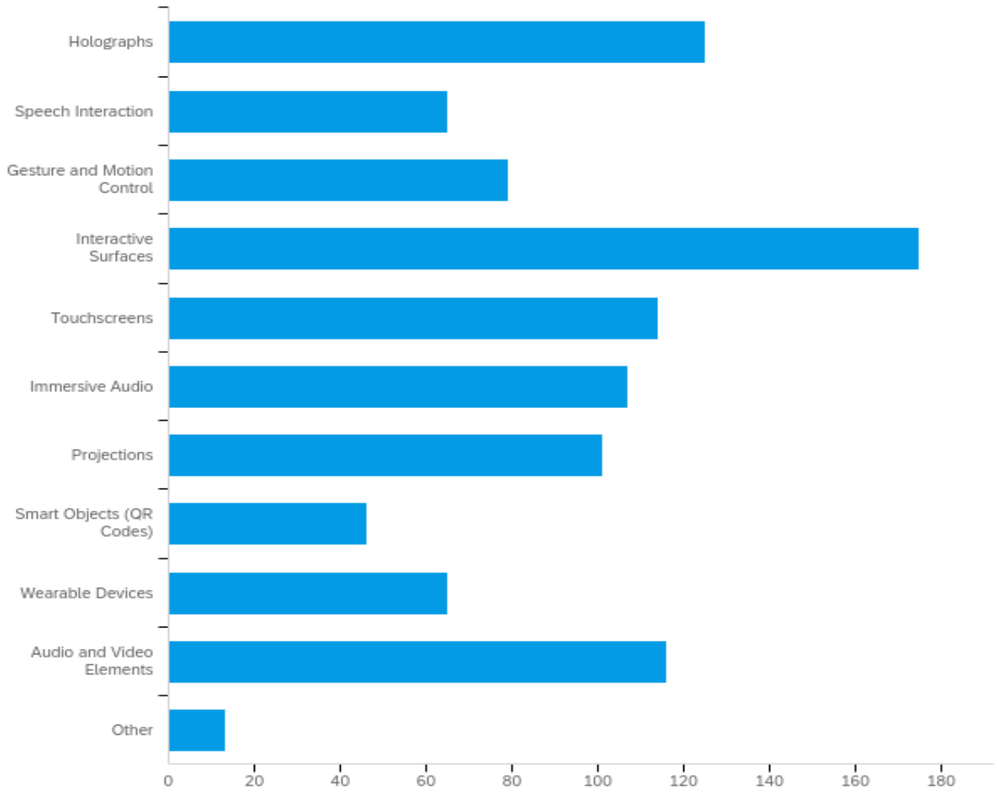
My favorite experience at a museum is seeing the pieces from the story being told. What stands out to me the most in the Walmart Museum is the truck. To use objects relevant to the teaching as an aid would be helpful in engaging learners in the topic.

— Jake

Jade sees technology and visual elements as a compelling way to help convey information. “I find that videos, especially ones with maps or diagrams, are very educational. I remember a video from a Civil War Museum that showed the Union or Confederate status of certain states throughout the war and displayed the number of casualties in a corner of the screen. I think that technology can help convey the scope of events especially well.”

Gabe concurs that technology can inform visitors about important information in a clear manner. “Technology that explains things in a clear, simple manner helps people learn best. For me, technology that involves visuals helps me learn the best. When I’m being taught something, it helps to have a picture or video of what’s going on so that I can have a better understanding.”

What technology would help you have the best museum experience?



When asked how museums can be more engaging, the interviewees tended to want videos and interactive exhibits, and some mentioned having staff on hand to answer questions. Many gave specific examples of past museum experiences they found engaging.

According to Jake, physical objects combined with interactive displays help engage the learner. “I find that a space is more engaging when it’s interactive, and when it’s a little outside the box. My favorite experience at a museum is seeing the pieces from the story being told. What stands out to me the most in the Walmart Museum is the truck. To use objects relevant to the teaching as an aid would be helpful in engaging learners in the topic. For example, if teaching about entrepreneurship have objects from the original store or that represent the store and how it was established. Maybe also things that Sam Walton used to establish the store such as cheques (checks), pens, etc. I think a surface that can be manipulated would be helpful in engaging learners to explore the material. If I see a large, interactive screen in a museum I will always explore it for a while.” Continuing with the connection of engagement to interactive activities, Emily gives some examples of games that allow for audience engagement. “An excellent way to make an educational space more engaging is by making it more interactive. Examples are playing games allowing the audience to free roam and view objects. In Washington, many parts of the museum had areas to sit and watch short clips about the next area you would walk into. For example, the Black History Museum showed a video of a boycott before you were led to the area to view more of the Jim Crow South.”

Jade contends that having a guide or instructor to answer questions will help keep the learners engaged. “I find that having staff around to answer questions and offer additional information is especially engaging.”

RECOMMENDATION 3

Use interactive technologies and should incorporate a discussion aspect and have a guide on hand to answer questions.

Museum Arts asserts that digital exhibits allow visitors to better grasp complicated processes or concepts by walking them through the stages, which can sometimes simulate different outcomes. Digital exhibits that challenge expertise, recollection, comprehension, and creativity often work best with teaching concepts (Museum Arts, 2020).

Guides or museum educators provide interaction between visitors and objects or activities. Socially moderated education in museums may take place through exchanges between informed adults—parents, curators, and teachers—using strategies to increase learning (Andre et al., 2017). Interactivity is the best domain for discussions between the visitor and the learning spaces of a museum (Milovanov et al., 2017). A study by Barzano et al. (2020) found learning is a process greatly influenced by the environment in which it occurs and by the materials and people that are part of the space (Barzano et al., 2020).

Guides can assist visitors with visual impairments by describing the displays and activities. In addition, most respondents to the survey and interviews I conducted said they would learn best when guides or instructors were available to answer questions. This interaction between visitor and guide will benefit visitors in receiving an optimal learning experience. Based on information from my data analysis, an exciting way to assist visitors could be to incorporate a hologram of Sam Walton, which answers visitors’ questions.

08

CONCLUSION

The data collected for this capstone project allowed me to gain an understanding about the best practices in designing an inclusive and engaging museum educational space. By examining characteristics that best serve learners in an informal museum learning environment, I found that interactive displays lead to deeper knowledge and longer engagement. I looked at four buckets: learning, engagement, technology, and inclusion. In addition, I explored how the themes of museum preferences, background/demographics, learning, and technology, affect engagement of museum patrons. The findings can be used in future studies about the learning and behavior that takes place in museums.

Limitations to this study mainly revolve around the pool of participants. While I did my best to include a diverse mix of participants by surveying students from all the campuses, including every grade, I was limited to the population of my high school. In addition, the majority of students who took the survey were white, did not have disabilities, and were between the ages of 11-18, so younger children and adults were not represented. While the respondents' demographics seem to align with the overall population in Northwest Arkansas, the museum draws visitors from around the world. Future studies should include younger children, adults, and subjects from outside the Northwest Arkansas region.

In conclusion, results of this capstone study indicate that watching, discussing, and touching are the best ways to learn. Museums must also consider all genders, non-English speakers and people with physical and learning disabilities when designing the learning space. Interactive technologies help patrons stay engaged and learn on a deeper level. The spaces should incorporate a discussion aspect and have a guide or instructor available to answer questions.

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APPENDIX 1 — SURVEY

MUSEUM LEARNING EXPERIENCE SURVEY

This is an optional survey conducted by Haas Hall Academy Fayetteville faculty member Karen Henry as part of her doctoral program at Vanderbilt University. The survey is designed to assist in providing an inclusive and engaging museum learning space for The Walmart Museum. The feedback from this confidential survey will help identify the best approaches in planning an educational learning space initiative at the museum. If you are under 18 and your parents do not approve of you taking this survey, please do not continue. By completing this survey, you agree to your responses being used for this quality improvement project. If you complete the survey and would like to have your responses excluded, please contact the lead researcher at karen.henry@vanderbilt.edu

How often do you go to a musuem?

- Once a year
- 2-4 times a year
- 5-10 times a year
- More than 10 times a year
- Never

What type of technology would help you have the best museum experience? (Select all that apply)

- Holographs
- Speech Interaction
- Gesture and Motion Control
- Interactive Surfaces
- Touchscreens
- Immersive Audio
- Projections
- Smart Objects (QR Codes)
- Wearable Devices
- Audio and Video Elements
- Other

How do you learn best?

	Very Much	Somewhat	Not at all
By touching	○	○	○
By reading	○	○	○
By listening	○	○	○
By watching	○	○	○
By discussing	○	○	○

When you visit a museum, what type of tour do you prefer?

- In-person guide
- Self-guided
- Self-guided but with someone available to answer questions
- Interactive (headphones and tablet)

What is your ideal length of a museum learning experience?

- Under 10 minutes
- 10-20 minutes
- 20-30 minutes
- 30-45 minutes
- More than 45 minutes

When you visit a museum, what keeps you engaged in the experience as you go through the space?

What type of social media do you use? (Select all that apply)

- TikTok
- Instagram
- Snapchat
- Facebook
- Twitter
- YouTube
- Other
- I do not use social media

Would you consider yourself to be a person with a disability?

- Yes
- No
- Prefer Not to Answer

If yes, and you are willing to share, what is the disability you are living with?

How can the museum provide the most accessible, safe, and comfortable environment for you and the disability you live with?

What is your ethnic background?

- Native American/Alaska Native
- Asian
- Middle Eastern/North African
- Latino/Hispanic
- Black/African American
- Native Hawaiian/Pacific Islander
- White
- Other

What city do you live in?

- Fayetteville
- Springdale
- Rogers
- Bentonville
- Other

What grade are you in?

- 7th
- 8th
- 9th
- 10th
- 11th
- 12th
- Other

How many languages do you speak?

- 1
- 2
- 3 or more

What is the highest level of your parent's education?

- High school diploma/GED
- Some College
- Bachelor's
- Master's
- Doctorate
- Other

What gender do you identify with?

- Male
- Female
- Nonbinary
- Other

What area of study are you interested in?
(Select all that apply)

- English/Writing
- Business
- Social Sciences
- STEM
- Art/Design
- Education
- Other

Thank you for completing the survey. I may conduct follow-up interviews. If you are interested in participating, please list your contact information below.

Name
Email address

APPENDIX 2 — INTERVIEW QUESTIONS

What kinds of technology help people to learn best? What technology helps you learn? Why do you think that is?

What was your favorite experience at a museum, and why?

What topics would you like to see explored at the new learning space?

How can a learning space at a museum be inclusive?

What would make the educational space more engaging?

What do you think are the most important skills to learn as far as being a business leader?

What interests you most about Walmart and the Walton family? Why?

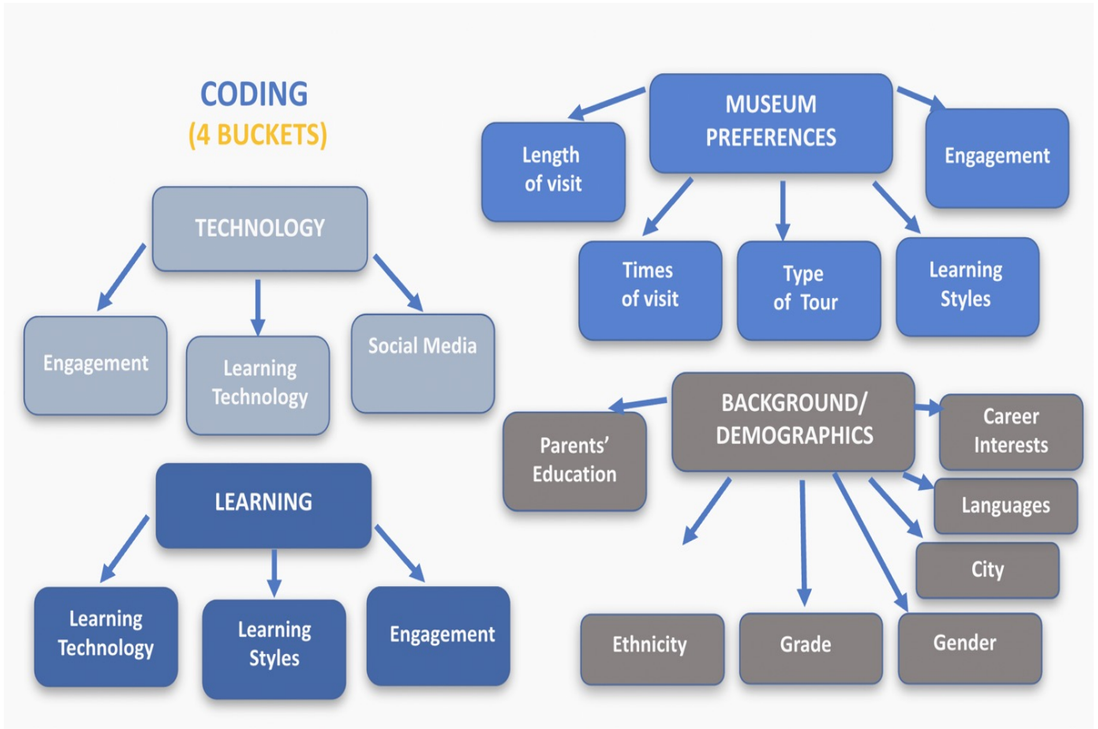
In what ways do you notice Walmart impacts your community? Do you think that this is different from its global impacts?

Are you interested in visiting the new learning space after it opens? If not, why not?

Are you interested in entrepreneurship? If so, why? If not, why not?

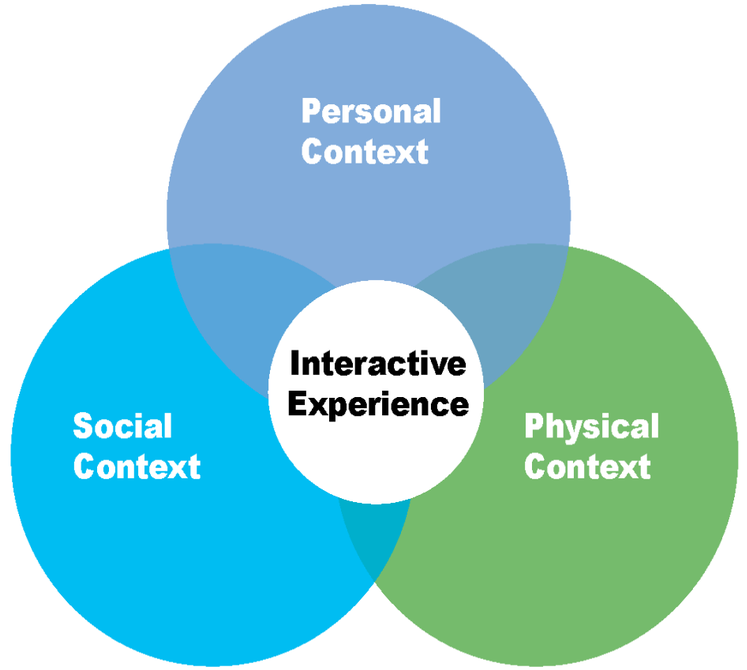
Do you think that museum learning spaces (and museums as a whole) are useful? Why do you think this is?

APPENDIX 3 — ORIGINAL CODING DOCUMENT



APPENDIX 4 — CONTEXTUAL MODEL OF LEARNING

(BASED ON SOCIOCULTURAL THEORY)



Adapted from an article by Jurnal Teknologi (2015) on ResearchGate.