I, Ezz Eldin M Osman, hereby submit this original work as part of the requirements for the degree of Master of Design in Design.

It is entitled:
Relevant Museum Experiences:
A Proposed Visitor Categorization Matrix

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Relevant Museum Experiences

A Proposed Visitor Categorization Matrix

A thesis submitted to the
Graduate School
of the University of Cincinnati
in partial fulfillment of the
requirements for the degree of

Master of Design

In the School of Design of the
College of Design, Architecture, Art and Planning

by

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Abstract

This paper proposes a visitor relevance categorization matrix that will help museum designers achieve better relevant experiences for diverse museums visitors. First, the paper will explore museum definitions, museums’ different roles, and briefly monitor the museum transitions through history. It will also examine the factors that create and shape museum experiences, and introduce the possibilities of adapting information spaces in educational museums where diverse visitors will be able to decode and connect to given information in museum spaces. Then, it will analyze the existing museum visitors’ categorizations and consider who the visitors are and their different identity-related purposes of each visit. The paper will present an analysis of the fundamental structures, obstacles, and processes used for creating successful communicative environments for a diverse audience. The proposed visitors’ matrix is a tool for museum designers and educational museum institutions to consider while developing effective visitor experiences. This matrix will allow visitors to make connections, assess values, and create meaningful associations with museum subject matter or objects. It will drive visitor curiosity and encourage them to explore deeper and construct learning. Integrated with other methods, the matrix will assist museums’ role in achieving education and a well-informed society in the 21st century’s modern societies.
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Introduction

Some visitors would detach from their museum experiences. Because they got tired, lost interest through having irrelevant experiences that don't connect to who they are, and what they expect to see or because they run out of time. People avoid museums for various reasons; some assume that museums don't provide what they might expect and prefer. In educational museums, a wide range of subject offerings that support their curatorial vision and meets visitors different learning styles is not enough to provide a diverse audience with personalized relevant experiences. As visitors choose what they want to attend to, museum designers and their institutions should facilitate structured offerings and experiences that respond to the visitors’ needs and expectations of the visit and help them establish connections to new subject matters, or reinforce existing connections. These experiences will consider who the visitors are, how connected they are to the museum subject, and what they are expecting. For example, visitors with strong connection or understanding of a museum subject would need a different path and different information offerings than those with lesser understanding or connections. This path skips the introductory level which focuses more on creating connections and introduces the subject. Also, there are different types of museums. The scope of the paper will focus on educational museum types, like history and science museums. Especially history museums which document notable events, give richer knowledge of culture and offer clues of how society has developed. Where there is richer, more complex information content, and different interpretations to the subject matter.
What Are Museums?

Museum definitions & role:
Museums have been serving different communities throughout the years. As they change, museums have had to adapt to meet their needs. But first, what is the definition of a museum and what was a museum’s role throughout history? Burcaw & Burcaw listed several definitions of museums. Most of them have common features like they are permanent institutions, they preserve collections, and they serve visitors with education, knowledge, and culture (Burcaw & Burcaw, 1997). In 2007, according to ICOM (International Council of Museums), “A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.” (ICOM 2007). The definition of a museum has evolved, in line with developments in society. The different definitions of a museum compliment one another, and reflect the role of the museum in evolving societies.

As museums’ roles and focus have changed throughout history, there always have been different arguments about the absolute role of a museum. Theodore Low in 1942 argued that the only purpose of a museum is education. However, that form of education was through supporting a scholar who studies the preservation of some artifacts, or through encouraging the curiosity of a visitor in an indirect way. He also believed that this form of education should be active and connected with the life of the
people in time and culture (Theodore Low 1942). Another argument is that museums are swinging between acting like forums of education or as temples of inspiration (Duncan F. Cameron 1971). They serve as cultural, educational institutions and places for experiences and reaffirmation of the faith. Thus, to Duncan, one of the imperative and unique roles of a museum is to relate the ancient or out-of-time-and-place collection to the contemporary life and society. The museums should have a high-level degree of objectivity, selection, organization and interpretation to the subjects and objects they present. Thus, some museums with less clear vision are not quite sure what they want to be and whom they want to serve. Duncan summarized his argument with a clear distinction that “The forum is where the battles are fought, and the temple is where the victors rest.” The first is a process while the second is a product. The paper agrees with Duncan’s distinction, which reinforces the museum’s definition of achieving education and entrainment to the visitors. Also relating and connecting the collection to the diverse audience and modern societies. In 2006 Chang, EunJung argued the same role of museums and how important it is for the museums to meet and respond to diverse public needs and expectations to be an effective public educational institution. In 2012 John H. Falk argued the same role of museums and emphasized on building bridges between museums’ visions and the visitors needs to achieve a successful educational institution and to deliver relevant experiences to the visitors. Museums should be able to bring visitors more than once and provide them with different experiences every time. In conclusion, most researchers believe that an important role of museums is not only to preserve collections and educate visitors but also to create a connection between museum content and visitors. What tools or methods need to be developed to establish
these connections? Museums consider different learning styles and varying levels of interactivity in a way trying to connect with more audience. But still, how can they link the story or the content itself to be more relevant to a visitor’s prior knowledge, and what he or she expects to see?

Museum Transitions:

Through last century and on, the museum perception to the public has been changed and reformed. First the transformation from a private collection in a room to an open-to-public collection held by a public institution. More than a century ago, museums started as cabinets of curiosity, where a collector who had an interest in subjects or objects began creating a room and collecting their adventures. The collection could be all science related, nature related, art related or a mixture of things. The reason at that time was to invite other elite family members and friends to show them how curious, adventurous, rich, or even civilized & cultivated they were. The invited visitor knew that the presented collection was just a private perception of the collector. Thus, they didn’t have to agree, disagree, or interpret the collection. Later in Europe, the idea of a public museum came on, and some of the private collections opened to the public. The idea was new, and the public still had no problem understanding that the collection was representing the collector’s perception. It was a milestone transition when museums happened to be public institutions with a collection dedicated to the public, or as they call it, the democratic museum (Duncan F. Cameron 1971). The idea was to assemble a collection and interpret it to the purpose of education and enlightenment of the public, as well as to preserve and study the collection. The collection was owned by the public
society it served and was protected in a public institution called a museum. Most museums hired people to select, organize and structure the collection to the public within a specific point of view of their own. The curatorial elite structured the public collection into models that were more understood and better interpreted in a meaningful way only to those with the same level education. In other words, the museum collectors had been replaced with museum curators. (Duncan F. Cameron 1971). Now there are different open-ended interpretations and structures of curating museums’ exhibitions. Museums’ culture on the other side is in transition, moving from an object-centered approach into a visitor-centered approach. Instead of focusing only on the collection, museums started to take care of communicating and reaching out to visitors’ needs and expectations (Hooper Greenhill 1999). Museums have been transforming from static storehouses of objects into active learning environments (Chang, EunJung 2006).

There is a global transition happening in information as well; it is largely growing fast with dynamically changing data with diverse resources and facets of technology, which reflect on every experience. There are also emerging trends of better graphic support and personalization for this data with richer input methods. Personalization initiatives are everywhere in different fields through services like Netflix, Amazon, Hulu, Spotify, Pandora and more. Societies now experience personalized experiences at various levels through these services. People have more choice and control for most of their educational and entertainment experiences. All this is happening in parallel with global, multicultural diversity and openness, where individuals have more information accessibility than ever before. It is important to understand the visitors’ needs and try to include them more in the design process, while giving the visitor room to speak their
voices, share opinions and interpretations. This could happen through having designated spaces for sharing visitor's opinion and feedback. All museums and cultural institutions should respond to these emerging trends in societies. Some museum institutions understand this and try to stay up-to date with the emerging needs of societies. They try to figure out different methods to respond to these trends through integrating various supportive technological tools. Twenty first century museums should deliver meaningful, personalized relevant experiences to all diverse visitors.

**Information space:**

Information Architecture (IA) is defined as the organization and presentation of information, which the paper believes is a major factor that affects the museum experience and learning in museums in general, although most IA practitioners associate information architecture only with web design. As a concept, it must be applied in broader ways for organizing complex information. “A structural design of shared information environments.” In *Information Architecture* book, authors outline the IA definition by saying “Information architecture is about organizing and simplifying information, designing, integrating and aggregating information spaces/systems; creating ways for people to find, understand, exchange and manage information; and, therefore, stay on top of information and make right decisions.” (Wei Ding - Xia Lin. 2010). Information architects are responsible for designing information spaces to individuals and groups, and tackle strategic aggregation of multiple information spaces. Information architects are not only organizing information but also simplifying
information accessibility and how individuals use it. This paper recommends information architecture as a cornerstone for museum information spaces.

*Spaces of Interaction and Places of Experience* book explained information space as “The space of semiotics. It is where people decode the signs in the world around them and use this information to guide their activities” (Benyon, D., 2014). In this paper, we define museum information spaces as the exhibitions’ information offerings, created to help and facilitate visitors to access, understand, and decode the subject. This will lead us to understand information artifacts. These are any object, tool, or service that helps individuals understand & decode an information piece or a subject within their space. For example, in a museum exhibition context, a printed label, an interactive digital screen, a designed sound, or a tactile vibration, all, which present information to the visitor, work as information artifacts. Along with the original preserved physical artifact, these create an information space for visitors, which will influence their experiences and learning. In educational museums, considering information architecture and exploring its different approaches in organizing the information offerings are critical, especially where museums deal with a wide range of visitors with different learning styles, diverse demographics, and various expectations.

**Learning in museums:**

Museums should take a leadership role in developing new models of learning and critical thinking. They should become centers of inspiration, reflection, and social interaction (McLean 2007). It’s valid that one learns only a part of the story at the museum, extending his or her knowledge after the visit. This paper argues that the
purpose of information spaces and achieving learning in museums is not by providing each visitor with all the stories and every piece of information, but helping visitors assess values, and create associations with the objects. In a way that drives visitors’ curiosity and pushes them to explore more and construct learning.

In 1995, George E. Hein explored the idea of the constructivist museum and how museums should address learning considering the wide range of diverse visitors. Hein started with the very basic theory of education, which consists of two main components: the theory of knowledge and the theory of learning. In the theory of learning, one assumes that learning consists of the incremental assimilation of information, facts, and experiences, until knowledge results. See Figure 01.
Figure 01, George E. Hein 1995 illustrates four possible combinations of learning theory and epistemology.

In the last couple decades, many museums have been trying to jump from the traditional lecture and text “The Systematic museum” quadrant into the “The Discovery Museum” quadrant. The “Discovery Learning” quadrant, emphasizes that people construct knowledge themselves through experience instead of being told. So rather than organizing the subject matter from the simplest to the more complex in a logical structure, it is arranged in a way to create experiences. On the other side, the “constructivism” approach argues that both knowledge and the way it is obtained are dependent on the mind of the learner. Learners construct individual or social knowledge as they learn and as they interact with the world, instead of just adding new facts to what is known (Hein 1995). The constructivist museum argues that the viewer constructs personal knowledge from the exhibit, and the process of gaining knowledge itself is a constructivist act. It allows visitors to draw their conclusions about the exhibition, give visitors an opportunity to make connections with concepts or objects, and make meaning of their experiences. In other words, presenting the subjects and the objects of the exhibitions based on the educational needs of the visitors, rather than on a logical structure of the characteristics of the subject or the properties of the objects. In conclusion, as there is no single way for visitors to learn the material, constructivist museums have no fixed entry and exit points. It encourages and allows visitors to make their own connections and to learn through a diverse open-ended way. The Constructivism Museum proposes a learning approach that focuses more on the visitor
than the content of the museum, using personal learning methods that accommodate diverse visitors. In 2000, Falk & Dierking confirmed Hein’s concept stating, “People don’t learn things in one moment in time, but over time” (Falk & Dierking, 2000). In 1996 Doering & Pekarik mentioned the same conclusion, that visitors bring to the museum their ways of understanding the world, their prior knowledge of the exhibition subject, and their personal experience, memories, and emotions. Visitors go to museums to confirm, enrich, or validate these previous experiences and knowledge, and leave the museum with delight, confidence, changes in ideas and perspectives, or deeper questioning. Previous statements could be reinterpreted as visitors are trying to make connections between what they already know and believe, and what they see and experience in museums.

Visitor Museum Experiences

There are different interpretations of the meaning of experiences in general and museum experiences in particular. Visitors have been perceived to attend museums not so much to collect knowledge as to accumulate experiences (Prentice 2001). “Experience is the irreducible totality of people acting, sensing, thinking, feeling, and meaning making, including their perception & sensation of the artifacts in context” (Benyon, D. 2014). “Museum experiences are personal, meaning making processes” (Chang EunJung 2006). Experience, in general, is a moment that leaves an impression on us. Visitors can learn through experiences by drawing on their past experiences to make sense of present museum experiences (Roppola 2006). Museum experience is a
process, in which the visitor makes of the world through contextually relating new experiences with selected parts of their total life histories (Graburn 1984). Dewey’s continuity principle explains that every experience both takes up something from the “before experiences” and modifies it in some way for the “next experiences” (Dewey 1928). Mainly most experiences will be shaped on the inputs from an artifact or a subject within a particular context and our personal perception of connecting the dots or making meaning out of it.

To shape relevant experiences for museum visitors, museum designers need to consider the visitors’ pre-visit relation to the museum subject matter, and facilitate personalized exhibits that respond to both the visitors’ pre-visit connection and their visit expectations. In other words, museum designers should focus on experiences as the interrelationship between people and environment, which considers exhibits not as experiences but as platforms for experiences as Roppola explained it (Tiina Roppola 2006). Through taking a brief look at previous museum visitor experience studies, Kirchberg & Trondle summarized the museum visitor experience research in an interesting way focusing on three milestones: pre-visit, visit and post-visit. Different researchers had models of what shapes the museum experience (Kirchberg & Trondle 2012). In 2004 Falk and Dierking developed a Contextual Model of Learning which focuses on the motivation and the expectations of the visitor and why they visit a museum. The outcome of the experience is measured by learning and remembering experiences. The four dimensions of the models are: The Personal Context, The Socio-cultural Context, The Physical Context, and The Time Context. See Table A. The key
point of their study is that we can’t detach the museum experience from the pre-visit expectations and post-visit learning.

Earlier in 1999, Doering, Pekarik, and Karns emphasized on the same point Falk and Dierking mentioned of how prior expectations shape the visit and tilt the visitors’ orientation to certain information and exhibitions. Doering, Pekarik, and Karns listed a categorization of visitor experiences based on surveys within research project at Smithsonian Institution museums. It included, Object Experience, Cognitive Experience, Introspective Experience and Social Experiences. See Table A. Interestingly, the study found that object and cognitive experiences are the most satisfying to visitors, especially in science and national history museums, while in history museums the introspective experience is more important.

Kirchberg and Trondle concluded that these different museum visitor experience studies do not contradict one another, but rather, they complement each other. There are always social, personal, or physical characteristics that influence the museum experience at different turning points of the visit. The personal knowledge, demographics, state of mind, and experience the visitors bring with them influence the visit. The exhibition design and the physical museum information space setting influences the experience and affects intellectual learning.

Many museums are trying to improve their information spaces by responding to various learning styles like Cognitive Experiences or Perceptual Dimension. Some museums noticed the important role of the Social Experience or Communication Dimension and started considering spaces or exhibits that respond to this social need. This paper argues that there are potential opportunities for creating more relevant and personalized
experiences for museum visitors through considering *The Personal Context*, *The Introspective Experience*, or *The Emotional Dimension* of the visitors. All three touch on the pre-visit experiences and knowledge the visitors bring with them and their personal memories, feelings and connections to other locations or times. See Table A.

### FACTORS THAT AFFECT MUSEUM VISITOR EXPERIENCES

<table>
<thead>
<tr>
<th>COGNITIVE</th>
<th>PERSONAL</th>
<th>SOCIAL / CULTURAL</th>
<th>PHYSICAL</th>
<th>OBJECT</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falk &amp; Dierking 2004</td>
<td>The Personal Context What experiences and knowledge the visitors bring with them</td>
<td>The Socio-cultural Context Which includes all the social and cultural influences of the visit.</td>
<td>The Physical Context Which involves exhibition design, information space and museum architecture</td>
<td></td>
<td>The Time Context Which includes the duration of the visit as an important aspect to consider.</td>
</tr>
<tr>
<td>Doering, Pekarik, and Kams 1999</td>
<td>Cognitive Experience Which focuses on gaining knowledge and enriching understanding for visitors.</td>
<td>Introspective Experience Which occurs in recalling personal memories, feelings and connections to other locations or times.</td>
<td>Social Experiences Which involves social interactions with family and friends during the visit.</td>
<td>Object Experience Which indicates the object’s authenticity, value, or beauty.</td>
<td></td>
</tr>
<tr>
<td>Csikszentmihalyi &amp; Robinson 1990</td>
<td>The Intellectual Cognitive Dimension Where intellectual understanding and new learning happen.</td>
<td>The Emotional Dimension Including emotions like joy, inspiration, love, anger based on personal associations and past experiences</td>
<td>The Communication Dimension Where there is an exchange of thoughts and feelings with other visitors.</td>
<td></td>
<td>The Perceptual Dimension Which indicates object perceptions regarding form, facility, beauty, texture and so on.</td>
</tr>
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Table A, Author’s compilation of factors that affect the museum visitor experience.

### Museum Visitor Categorizations

Providing relevant museum experiences is the most challenging task for museum designers. Diverse audiences have different demographic factors (age, race, occupation, education, etc.), different learning styles, expectations, behavior, prior
experiences and connection to the museum subject. There is no universal or unified classification for museum visitors. This section presents popular museum visitor categorizations. The similarities and differences between these categorizations will be outlined through a broader scope of a holistic museum experience, identifying the qualities of each categorization that will help create relevant experiences for the audience.

First, some visitor categorization studies focused on who the visitor is, trying to find patterns in visitors’ identities and semi-permanent demographic qualities. Some age groups have similar interests or challenges while visitors with different educational levels have certain expectations. Other categorizations tried to identify the intellectual and cognitive abilities of diverse visitors and their various learning interpretations. Some studies focused on the patterns of the walking and observation behavior of the visitors. The paper compiled these classifications together and called it the “Who,” as all these different qualities relate to the visitors’ identity, intellectual ability, and behavior. See Table B.

In 1991 Levasseur and Veron mentioned four different visiting styles using metaphors from animal motion behaviors. It is challenging to achieve personalized experiences considering the Levasseur and Veron classification. Using only walking behavior patterns doesn’t provide enough inputs to create relevant experiences that connect the visitor with the museum content. Also, the walking behavior could be a result of visitors with different learning styles responding to the museum exhibition design.

Examples of categorizations with a focused purpose of recognizing the learning style of the visitor or identifying the learning behavior are Gardner and McCarthy (Gardner,
Considering different learning styles’ qualities is crucial for all educational museums to reach a more diverse audience. One can see many examples where educational museums apply different learning styles to respond to various audience needs, from written material, to visual media, and hands-on interactive experiences. This paper argues that such classifications are great reference to consider for the diversity of the museum information offerings, but they do not connect with visitors’ identities or what they know about the museum subject.

Umiker-Sebeok had a similar categorization about how visitors make interpretations at museums (Umiker-Sebeok, 1994). Sebeok’s categorization interestingly started to focus on the expectation of the visitors and what they attend to, which is a critical point in delivering relevant experiences. For example, creating curated experiences based on social interactions, or experiences that focus more on entertainment.

Eilean Hooper-Greenhill identified target demographic groups with a blended intent of answering who is visiting and why they are visiting (Hooper-Greenhill, 1999). Visiting groups have more complex qualities to consider and most groups are limited to the same visit duration. Also, they have different intellectual and physical abilities. The “Who” is different for each person within a group, but the purpose of the visit is usually unified for a group. For example, a School Group or Other Organized Educational Groups would have a unified purpose of the visit, usually to learn about a certain subject or have certain experiences. For museum designers to achieve relevant experiences, it is important to understand visitors’ demographics to establish a deeper level of connection with the visitor through the exhibit. It is also imperative to consider the purpose or the expectation of the visit.
Table B. Author’s compilation of different museum visitor categorizations.

**Visitor needs “Why” (John Falk):**

Recently, John H. Falk argued that museum visitors should be categorized based on their identity-related needs or the purpose of their visit. He argues that demographics barely give insights about visitors’ needs and what they expect from a visit. As the important question to ask is why people go to a museum instead of who is going. Based on Falk & Dierking’s studies and researches, visitors are categorized into seven different personas. Most visitors’ needs or expectations of a museum visit should be included amongst these categories: **Explorers:** Visitors who prefer new and rare exhibits. **Facilitators:** Visitors who are socially motivated. **Professionals / Hobbyists:** They represent the smallest category of visitors. They usually come with a goal in mind.
**Experience Seeker:** They are often tourists, motivated by the fact of having been there and done that. **Rechargers:** They see museums as places that afford them the opportunity to avoid the noisiness of the outside world. More recently Falk added two more categories reflecting on the growth of museums devoted to specific ethnic or affinity group. **Respectful Pilgrims and Affinity Seekers** (Falk & Dierking, 2013). See Table B. In summary, Falk & Dierking argue that every visitor has identity-related needs, interests or purpose of each visit. Either they express their curiosity or they find relief from the stresses of daily life or support the needs of loved ones. Individuals within a category behave and learn in ways that are different from individuals in other categories (Falk & Dierking, 2013).

**Complexity of Visitors:**

“Visitors behaviors are not random; there are patterns” (Serrell 1997, P.121). Each of the previous visitor categorizations was a way seeking to understand such patterns starting with “Who” concerning demographics, learning styles, walking behavior, content interpretations, etc. Although some of these characteristics seem to be permanent qualities, alone they are still not enough of an input to help museum designers achieve relevant experiences. For example, visitors could be considered demographically under a particular racial group, but they grew up in a different continent and experienced different culture. The same scenario applies when we think about the purpose of the visit, the “Why” introduced by Falk. He proposed that visitors have different expectations or needs of each visit. Metaphorically, he argued that visitors wear different “purpose” hats at every museum visit. This paper argues that visitors wear different persona hats
even at the same museum at various points of interest. For example, if the primary demographically categorized visitor is a white, middle-class history professor, he goes to a history museum as a *Professional* with the purpose to learn something new. At the same museum, he might visit a different exhibition about a war his father participated in or a historical event that affected his family. In this case, he would be interested to see that exhibition not only as a *Professional* but also as an *Affinity Seeker* or as a *Respectful Pilgrims*.

There are different levels of connections between each visitor and the exhibition subject that should be considered in creating relevant experiences. Visitors’ experiences couldn’t be framed only based on solid boxes of demographics or a solid purpose for each visit. Human experiences are very fluid, and there are too many factors that affect them. In other words, museum designers should consider who the visitors are, why they visit, and how connected they are to the exhibition subject. Designers should understand the inconsistency of such visit behaviors and expectations. They should allow platforms of experiences that digest this fluidity and facilitate creating associations and construct learning in museum exhibitions.

A fact to consider in most of the previously mentioned visitor categorization studies were based on questionnaires. This means that the immediate reactions in the exhibition halls could not be observed. Furthermore, these studies address the cognitive and linguistically processed echoes of previous experience, but not the experience itself (V. Kirchberg, M. Trondle 2012). On the other hand, there are current visitor experience studies that involve technologies for accurate, and real-time results. Groups such as eMotion (Mapping Museum Experience) analyze the experience of the visitor
experimentally. They are using different methods of visitor tracking, biometric measurements, empirical social science, and data-sonification. The team also validates this complex quantitative data with qualitative questionnaires, enabling them to interpret the complex material thoroughly. Such approaches and methods are critical shifts to understanding museums visitors which will help museum designers create more relevant experiences based on reliable tested data.

**Visitor Relevance Categorization Matrix**

To achieve personalized experiences for visitors, drive their curiosity, help them make connections with the museum subject matter, and assist them to construct learning, a new visitor categorization matrix is proposed. Previous reviewed categorizations focused on the intellectual ability or cognitive ability of the visitors through understanding their learning styles, ways of interpretations and so forth. Understanding such semi-permanent qualities are essential. Still, some of the intellectual ability qualities are not permanent, and they should not be considered solely to achieve relevant experiences. When visitors grow up, they develop new learning techniques and start to lose others. Learning styles and subject interpretation are still linked to some demographic qualities. For example, age and educational level affect how visitors learn or interpret subject matter at educational museums. Now, it’s crucial for any educational museum to present their information and experiences in a way that fits various intellectual abilities. All educational museums must have a broad range of informational presentation offerings that respond to the diverse intellectual abilities of the visitors.
One can see many examples of how educational museums apply their educational role through different presentational methods that fit different learning styles. Such cognitive ability classifications work as personalized methods for delivering learning to diverse visitors. But still, they don’t understand the connection between a visitor and the museum subject matter or what the visitor is expecting to see and willing to attend to at a specific visit. Most museum researchers agree with how the pre-visit knowledge, experiences, expectations, identity & mindset affects the museum experience (V. Kirchberg, M. Trondle 2012).

The new proposed categorization links what visitors already know and how connected they are to the museum subject matter with their experiences. It will help visitors personalize their experiences and create better associations. This will happen through understanding the prior knowledge and connections that the visitor has about the museum subject along with his or her expectation of the information and experience offerings within the visit.

![Existing Categorization vs. Proposed Categorization](image)

**Figure 02**, Author’s illustration that shows the difference between existing and the new developed museum visitor categorizations.
1. **Demographics:**

First, to understand the visitors, museums must have the primary demographic semi-permanent qualities of the visitors. Such qualities will help museums narrow down its broad range of offerings and still connect with and educate more visitors. For instance, knowing the age group, the educational level, or the occupation of the visitor helps museums set the right tone for a relevant experience. For example, the elderly might have some visual challenges that need to be addressed with different experiences, or a younger age group might need lighter-content interpretations of complicated subject matters. Also, knowing the visitor's ethnic group, occupation, and field of study will help to make a connection with a visitor at an individual level. For example, if the visitor is Asian and has a biology background, the experience would offer a biology related interpretation of the original presented subject matter, or an ethnic group association, like “While this was happening in America, this was going on in Asia.” Considering some demographic qualities like race, occupation, or spoken language will allow a detailed level of “Micro” personalization per visitor. Visitors will see related information with their spoken language, related to their field, and culture. Such demographic qualities could be grouped in a structured way with features and needs. There are several demographic studies about age groups, generations, ethnic groups and so forth. Museums’ information spaces should respond to these categorizations, that considers the needs and the challenges of each cluster.

2. **Prior Connections & Knowledge:**

As much as knowing the visitor’s demographics are helpful and necessary, alone they are still not enough to provide a wider spectrum of the visitor’s identity, knowledge or
prior connection to the museum subject. For example, a visitor could be stated ethnically as Asian, but living his or her entire life in America. In this case, that visitor connects to the American culture more than his or her demographically categorized race. This provides the visitor with different knowledge and connections about more subject matter, so stating a level of affirmation of how the visitor connects to the museum subject is crucial. It is very challenging to know what every visitor knows and how they connect to every museum subject-matter. It is still possible that the visitor will have the control to choose his or her level of connection or knowledge about the museum subject through the developed matrix. The research proposes three levels of connections. **Strong connection:** the visitors who feel that they are highly connected, or more knowledgeable about the museum subject matter. Some reasons could be that they are directly affected by certain events that happened, or they lived in different countries, experienced different cultures and made stronger connections, and so forth. **Medium connection:** the visitors who are interested in the museum subject, but partially or neutrally connect with it, like having a friend with a strong connection who gave them some knowledge, or visitors who worked on a project that helped them know the basic information about the museum subject. **Weak connection:** the visitors who don’t know the basic fundamental knowledge of the subject. They were not interested in exploring the subject matter before or didn’t consider doing so.

The museum information spaces should respond to these connections through understanding the level of connection to the subject matter. For example, for visitors who have weaker connections with the museum subject, museums need to work on establishing new connections through introducing the topic in a more interesting way
that relates to the visitor. Provide the visitors with the fundamental information that drives their curiosity, more than proposing deeper questioning of the subject.

The demographics identified as the “Who,” and the connection designated as the “What,” see Figure 02. Both work simultaneously to understand the visitor’s identity and connection to the museum subject before the visit. Museums need to understand the “Who” and the “What,” plus the “Why,” which is the mindset or the expectations of the visitor at any visit.

3. **Expectations:**

After knowing the visitor identity and semi-permanent qualities through his or her demographics & understanding his or her connection to a museum subject, comes the question of what they are willing to attend to, and what they are expecting out of the visit. This paper reinterpreted John Falk’s answer to the “Why” question, as explained in previous chapters. The new interpretation is based on the primary seven purposes of the visit Falk listed earlier, but it regrouped them regarding the expectations of the informational & educational level, and the expectation of the experiential or spiritual level of the experience. See figure 03.

![Diagram of visitor categorization](image)

**Figure 03, Author’s reinterpretation of Falk visitors’ categorization.**
This paper reinterpreted Falk’s personas to three expected experiences 1- *The Light Experience*, which includes the *Recharger*, the *Experience Seeker*, or the *Facilitator*. These purposes tend to see the museum as a temple more than a school. Visitors seek more experiences than educational information. 2- *The Balanced Experience* includes the *Explorers*, the *Affinity Seekers & Respectful Pilgrims*. They care about the educational and learning value and still appreciate the experiential part. Visitors tend to have a balanced mixture of both educational and experiential needs. 3- *The Professional Experience* is for professionals who seek more learning and knowledge. They see museums more as an educational institution than a place of entertainment. All the three reinterpreted purposes show the expectations of the visitors or what they are willing to experience in a museum visit. The first one is *The Light Experience* where visitors interpret museums more like a temple than a school. They seek general information, fewer complex interpretations and more holistic experience of the subject matter. The second one is *The Balanced Experience* where visitors seek varying steady doses of information offerings & education and interesting experiences with more depth of the subject interpretations. The third one is *The Professional Experiences* where visitors seek more in-depth explanations and expect more informational offerings that support their learning.

The developed matrix is a tool for museum designers and curators to achieve relevant experiences for diverse visitors. It is compiling both the visitors’ identity & prior connection to the subject matter with their expectation or need of the visit. Each parameter of the matrix will give museum designers specified features and needs to be
addressed. For examples, for visitors who have *Weak Connections* with the museum subject matter and expecting a *Balanced or a Professional Experience*, the museum needs to provide them with curated tours that focus on introducing the topic in a novel way that establishes more connections with the subject. The museums should also offer them in-depth information while creating more connections. In other words, each parameter of the matrix will be designed upon, for wider inclusive informational offerings. This will help visitors choose their relevant experiences based on who they are and what they need. See Figure 04 & Figure 05.

<table>
<thead>
<tr>
<th>WHO + WHAT?</th>
<th>Connection / Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weak</strong></td>
<td><strong>Medium</strong></td>
</tr>
<tr>
<td>Light</td>
<td>W/L</td>
</tr>
<tr>
<td>Balanced</td>
<td>W/B</td>
</tr>
<tr>
<td>Professional</td>
<td>W/P</td>
</tr>
</tbody>
</table>

Figure 04, Author’s developed matrix for visitors’ categorization. Shows the different levels of the visitor’s connection to the museum vs. the visitor’s expectation of the experience.
Figure 05, Author’s hypothetical scenario where visitors have different “Macro” curated routes based on their connection and expectations, and “Micro” personalization based on their demographics at different points of interest.

**Conclusion**

Museum learning is facilitated when visitors can exercise choice over what and when they learn and feel in control of their learning. Museums should empower the visitor and give them control of their experiences and learning. Empowering the visitor will occur through facilitating curated platforms of affordances and information structures that respond to the complexity of their needs, expectations, and demographics. The proposed matrix can serve as a tool for museum designers and their institutions to better understand the visitors and provide them with relevant experiences. This proposed matrix addresses the dynamic needs and expectations of today’s diverse visitors. It will help ensure meaningful connections by linking visitors’ pre-visit experiences with their desired expectations.
Challenges / Future Research Opportunities:

- Minimal understanding of how museum designers work today, how they consider diverse visitors in their designs, and what methods they use to understand the museum visitors.

- Collecting visitors’ information could be a challenge. Before the visit, at which point should the information be collected? It could be integrated with purchasing the ticket. Museum tickets could be reimagined, to be based on Experiential / Educational needs.

- Understanding the design boundaries for curated experiences, and the design requirements of each category in the matrix. This requires further research to conceptualize, co-create, validate and test the applicability of the matrix within educational museum experiences.

- Adapting technologies that respond to visitors’ demographics “Micro” Personalization. Some level of personalization is now happening through guided tours, or personalized information through the visitor’ devices (phones and tablets), but how that could be implemented in museum spaces.

- Not every visitor wants to have control of their experiences; some visitors just want to experience whatever is available. It is valid to have outliers and to allow default-structured experiences with a proposed interpretation that is still open for personalization.

- The proposed matrix would require testing and performance criteria for determining its effectiveness.
Selected References


Online References:


• Jewish Museum Berlin, & Falk, J. (2014, April 9). *John H. Falk: ‘The wiring of the medium may be new but the users’ wiring is old’* Retrieved from https://www.youtube.com/watch?v=niMQGncpplA


Appendix

Case study: Cooper Hewitt, Smithsonian Design Museum

With a critical perspective, the study was trying to look for current examples that are following and supporting the new emerging approaches in designing museum experiences. Local Projects, a design firm located in New York, explored different projects to include visitors as part of the curated experience. At the Cleveland Museum of Art (CMA), Local Projects developed an interactive display where visitors can make facial expressions that link to and connect with portraits from the museum collection. Also at the 9/11 Memorial, the museum shows how the design team creatively engaged the visitors socially and used information spaces. Late in 2014, Local Projects re-envisioned the Cooper Hewitt, Smithsonian Design Museum experience. The museum re-opened its doors and invited visitors to explore, learn and create. Jake Barton, Local Project principal explained that through research results, humans are more likely to
forget things when they photograph them. On the other side, we are more likely to remember things when we are engaged in the details. In this project, the team was trying give the design tool to visitors, letting them create, collect, and get inspired. Regardless of visitors’ expertise, background or age, each will connect to museum collection in his / her own way.

The design team along with other stakeholders, collaborated for more than two years to craft the museum visitor experience. With the focus of interactive experiences that engage the visitors at various levels, the team designed and utilized the experiences with a pen, which still metaphorically represents the subject matter of design. The museum provides every visitor with a designed pen, and the pen allows visitors to do two things. First, it lets them “collect” objects digitally by touching it to the object’s label. Second, the museum has two spaces in which visitors can create designs based on digitized objects in the collection that can also be saved for later retrieval. When visitors touch the pen to labels on the exhibition display cases and elsewhere in the museum, a digital copy of those items is saved to an online account accessible via a URL on the back of each ticket. Visitors can save objects on display they want to look up later to explore more in-depth or share what they saw with friends. Such a tool invites visitors to put the smart phones aside, and not only learn by designing their own collection, but also be simultaneously inspired by the museum collection and subject matter. For example, once a visitor starts drawing lines for his / her design, the system will bring collections that relate to the lines. The pen is a way to bridge the divide between the physical collection on display in the museum and the digital collection that exists online. There is also “The Immersion Room” which invites visitors to both project historic
wallpapers or create their own in full scale. Historic wallpapers are augmented by audio narrations from some of the best working designers which then in turn inspire visitors' own creations. If the visitor is creating a new pattern inspired by a famous artist, the artist will appear and give the visitor tips about the pattern color theory, for example. Then the visitor can save the design to the pen, and print his / her design into a phone cover, a t-shirt or whatever he / she likes from the gift store. Another museum exhibition called "Beautiful Users" explores the history and evolution of user-centered design. The design teams created a gesture match, an interactive experience that helps visitors understand the relationship between the human body and design. Visitors can stand in front of a large digital screen that cycles through life-sized silhouettes of human bodies in different positions. While they strike a pose in front of the motion sensors, Gesture Match will cycle through its catalog of gestures to connect the posture to a piece of design. Also the “Process Lab” allows visitors to learn design by hands-on experiences and explore and evaluate different irritations of the designed object. The designing tool asks you questions of how you would consider the universal design approaches in your iteration or how would you make your irritation more efficient to others. Instead of having a plaque that explains the objects and the subject matter in a passive way which might connect with fewer visitors, the museum and the design team developed a more interactive, open ended and inclusive way to connect the presented information with the visitors’ actions and choices.

Statistically, the Smithsonian provided numbers that 99% of the visitors accepted the pen as a tool of interactivity in the museum, and so far 20% of the visitors have gone back to the museum website to retrieve their saved collection. The Smithsonian also
reported that visitors from August to February had collected 1.8 million objects and saved 57,046 designs that they had created themselves. It is an approach for the museum to understand how much of the online traffic followed a real life encounter. Also, it started to look at the museum experience through a holistic lens, not only within the museum walls, but also through an extended visit experience. With different levels of interactivity & engagement, the museum tries to tie and link more connections with the diverse visitors through their creations. *The Atlantic* stated, “The most powerful, most important thing that Cooper Hewitt Labs has done for the museum is build what’s been called “The API at the center of the museum.” The Cooper Hewitt's API connects to the museum’s two operational databases—its vast collections database and its complex customer and ticketing databases—and fuses them. Then it makes the collections part public and accessible.” Also *FastCo Design* stated, “The Cooper Hewitt has created a museum that can be experienced a new way every time you visit, whether the exhibits have changed or not, creating experiences that are worth returning for. The museum made a piece of infrastructure for the public, but the museum will benefit in the long term because the infrastructure will permit them to plan for the near future.”