INTRODUCTION AS INTERFACE

Activating the Exhibition Threshold with Multisensory Design

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Introduction As Interface

Activating the Exhibition Threshold With Multisensory Design

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ABSTRACT

Although the threshold experience of an exhibit can take many forms, the introduction wall itself is notoriously known to manifest as large bodies of text. Research shows that successful interpretation within a museum exhibition requires multimodalities as entry points to relevance and resonance. This project attempted to utilize a multisensory design approach to better incorporate the introduction wall as part of the larger threshold experience. In the context of this paper, the focus will be on art museums in particular as the majority of interpretation within the exhibition space relies on didactic panels.

To test visitor engagement within the threshold experience, a series of observations constructed a comparative analysis between that of the standard introduction wall and a redesigned threshold experience. Participants were observed in the gallery space prior to and post the prototyped design. This data was then analyzed and translated to reflect levels or ranges of engagement in order to understand if the design intervention reflected any alterations. The results showed an increase in engagement due to the prototyped design intervention, suggesting its positive effects on visitor interpretation.

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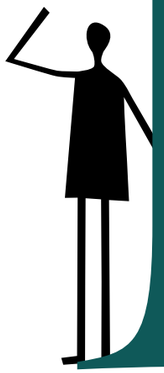

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PERSONAL STATEMENT

In 2015, I founded Art Talk Collective, an online community that served as a resource for art enthusiasts. The premise of the project was to provide a collaborative setting in which participants could write a brief review of an exhibition experience. This idea was based on my own background as an art history student, as well as my personal love for art and writing. As much as I enjoyed reading academic sources about art, I wanted to create a space that inspired individuals who were not naturally inclined to do so.

Although the majority of the content on the site was my own, I continually encouraged other participants to collaborate. To my surprise, many people I asked were intimidated not only by

writing, but simply the act of attending the exhibition itself. Many felt that this experience to be inaccessible, and that because they did not have certain knowledge, their contributions were invalid.

This rhetoric continued into my professional life. I encountered individuals who felt that an art exhibition was not for them, deferring to my opinions and expertise. *What made my experience more valid than theirs?* My training did inform my experiences with art, but it did not direct my enthusiasm or my curiosity when engaging with it. Art Talk Collective increasingly grew to reflect my ambitions to make art a more accessible experience.

Attending graduate school has allowed me to develop tools and skills in order to continue this journey. My interests in increasing interpretation in art exhibitions has conflated with my education, creating clear career goals. This project has enabled me to research and reflect on my ideas as a professional, as well as an engaged museum goer. My pursuits have continued to be one of collaboration and understanding. In doing so, I utilize standard museum practices, while adding and incorporating my design approaches to build bridges between the museum and the viewer. *How can we use what museums have done to transform what they could do?* This project reflects my curiosity on these topics, and is my contribution as a designer, forever art lover, and an audience advocate.

How can the introduction wall incorporate multisensory design to create a threshold experience that will facilitate a more inviting and meaningful experience for visitors?

INTRODUCTION

Although the threshold experience of an exhibit can take many forms, the introduction wall itself is notoriously known to manifest as large bodies of text. This has become a practice that extends to all museum types and largely acts as the anchor to which the main concepts of the exhibition are initially presented. The introduction wall's ideal function is to illustrate the overarching themes, pinpoint connections, and establish the narrative; ideally leading the visitor into the exhibition with the knowledge to understand and the confidence to learn. No matter the content of the exhibition, there is sure to be an introduction that orients the audience and positions the narratives.

Wall text is largely considered the standard for the introduction wall. The wall text acts as the preemptive point in which the curator lends their intellectual expertise to craft the words that distinguish the significance of the presented content. These words are worthy endeavors and a critical piece to the exhibition as a whole.

However, the standard model of the introduction wall presents several barriers. The high-minded thoughts manifest as a curatorial statement which is usually written by one individual, who cannot interpret an entire exhibition, with only so many words, while reaching a multitude of audiences.

The entry points for relevancy and accessibility are a hard-won goal with visitors and the reliance on the introduction wall as the sole tool for interpretation can quickly become burdensome for audiences.

The introduction wall, as part of the threshold experience, is presented at the very beginning of the exhibition, usually when audiences are feeling the most energized, and arguably, the most captive. This presents an opportunity for the introduction wall to perform the heavy lifting when audiences might actually read the entirety of the text. And yet, if used improperly, wall text can quickly feel intimidating, overwhelming, and tiresome.

When considering the introduction wall as real estate within an exhibition framework, it holds a verifiable weight. The threshold to an exhibition greets an audience that has voluntarily decided to experience the exhibition. This audience is rested, captive, and their attention has not been diminished. The opportunity to convey important information, provide historical context, or invoke curiosity is present, and therefore should be fully leveraged.

Although the use of wall text remains a constant, museums have begun to energize their exhibitions by way of immersive experiences, further engaging a visitor's numerous senses. In recent years, museums have developed multisensory approaches to exhibition design, crafting the experiences as it pertains to the text. Multisensory design has altered the central core of information-learning, democratizing the museum experience as a whole by making the exhibitions more accessible, more memorable, and more relevant.

As technology has advanced, museums have adapted how they surface information, making the content more specific, while addressing a wider and more diverse range of visitors. These adaptations address the content with a variety of opportunities for engagement, shifting the focus to better accommodate and attract their audiences through elevated levels of experiential design. Rather than designing an exhibition to simply provide instruction, museums have begun to rely more on interactive experiences that enable audiences to participate with the exhibition.

These interactives engage a variety of senses and modalities to create connections between the audiences and the content. Exhibition design, as a specialty within the field, considers how information is presented and the outcomes of those intentional designs. These thoughtful displays aim to engage visitors through a multitude of ways, layering and building to create a cohesive experience.

In this world of multisensory design, large bodies of text quickly become antithetical to an embodied experience. A multimodal approach incorporates text, but does not rely solely on its existence or its implied use. And while these designs aim to engage every aspect of the exhibition, the threshold experience remains a glorified bookend to an otherwise integrated experience.

The threshold experience offers a singular opportunity when considering the success of the exhibition as a whole. It is a platform that negotiates both content and design to promote interpretation and establish relevance. However, this opportunity is largely underutilized and is generally defined by its standard, text-based practice. This project seeks to explore how exhibition design can activate the threshold experience through a multisensory approach in order to reflect content more expansively, and therefore better support the visitor experience. *How can the introduction wall incorporate multisensory design to create a threshold experience that will facilitate a more inviting and meaningful experience for visitors?*

GLOSSARY OF TERMS

EMBODIED EXPERIENCE is an experience that utilizes more than one sense to increase engagement and understanding.

ENGAGEMENT refers to the active participation from an individual or group in regards to an exhibition element such as an interactive.

INTERPRETATION is the act of understanding any relevant meanings, or key elements. This can also construct the platform for audience members to engage.

MEDIATION is the act of unseen dialogue between the intent of an exhibition element or experience, and the understanding by a viewer.

MULTIMODAL describes an exhibition element that utilizes more than one type of literacy to increase ways of understanding.

MULTISENSORY describes an exhibition element or experience that utilizes more than one sense to increase ways of understanding.

THRESHOLD EXPERIENCE is the transitional space between the exterior and interior of an exhibition.

"With real rather than ideal visitors in mind, we can plan and deliver more effective interpretation in our galleries."

– Beverly Serrell

RATIONALE

When considering the threshold of an exhibition, the introduction wall is considered an interface in and of itself; "acknowledged as part of the mediating environment" where information and content is examined and explained.[1] In so much as the wall text, the introduction wall is a main component of the threshold experience. As this is considered standard practice for many museums, the content of the introduction wall ideally formulates the central interpretative structure. As Pierroux surmises, "The wall text endures, even as the very concept of text has been extended and distributed as multimodal content across mobile devices, social media platforms, and immersive interactives."[2] Wall text and reading are a standard modality that exists regardless of evolving technologies in museum exhibitions, and for good reason.

The narratives and content of an exhibition are developed early on, and are in constant consideration of the interface that will be used to surface that information. Whether that be simply placed on didactic wall panels, or utilized within a digital media component. The key function of the introduction wall acts as the starting point for these carefully constructed narratives; the core being made up of wall text that states the essential information, setting up the opportunities for interpretation. The wall text as a modality is critical to this interpretation and meaning-making as a whole.[3] However, the introduction wall largely survives on this one modality, leaving the consideration and opportunity for design to fall on the rest of the exhibition.

Multisensory design has become an essential tool for exhibition designers to connect visitors with interpretation and content. It provides not only more accessible, integrated experiences, but allows for further meaning-making and relevancy. A museum experience that supports numerous entry points for interpretation relies on the nonverbal communication between the objects themselves, the space, and the viewer to create an embodied perception.[4] An embodied experience, "through the senses (and their necessary and unnecessary mediations) is how we think."[5]

[1] Pierroux and Qvale, "Wall Texts in Collection Exhibitions: Bastions of Enlightenment and Interfaces For Experience", 39–50.

[2] Pierroux and Qvale, "Wall Texts in Collection Exhibitions: Bastions of Enlightenment and Interfaces For Experience", 39-50.

[3] Pierroux and Ludvigsen, "Communication Interrupted: Textual Practices and Digital Interactives in Art Museums", 153–176.

4 Pallasmaa, "Museum As An Embodied Experience", 239–249.

[5] Jones, Caroline A., "The Mediated Sensorium", 5-50.

"Instead of only placing our objects on pedestals, it's time we placed our visitors on pedestals as well."

– Kathleen McLean

[6] McLean, *Planning for People in Museum Exhibitions*, 5.

This nonverbal communication requires intentional choices throughout development, and challenges using single modalities to create experiences. A seamless communication between objects, experiences, and text can create a layered approach that reaches farther and provides more meaning in regards to the visitor experience. The power of sensory experiences in a museum visit offers not only the opportunity for audiences to access the space in a more equitable way, but sparks excitement and engagement.

This is critical as museums have begun to shift their gaze from collections-focused to visitor-centered. As Kathleen McLean states, "Instead of only placing our objects on pedestals, it's time we placed our visitors on pedestals as well."[6] This necessary shift manifests itself in the museum as somewhere on a spectrum between entertainment and education. The museum must become more interested in what visitors think, their questions, and their interests. By addressing the visitor, exhibition planners and designers have the opportunity to envision experiences.

Experiences take place within a three-dimensional space. Exhibitions are not solely what is on the walls or in the cases, they are environments that offer a unique medium for communication and dialogue. Objects, art, and artifacts are not experienced in isolation, which asserts that exhibitions must rely on context in order for visitors to effectively access these experiences.[7] Context and information are critical pieces, and should be communicated throughout the exhibition as a medium. However, in addition to information and context, there are emotions, feelings, ideas, and values; all of which should be part of the designed environment.[8]

McLean asserts that there are three universal principles of museum exhibitions. 1) That the main business of museum exhibitions is to show things, 2) that museums are a medium for communication, and 3) that exhibitions are experiences, not products.[9] These three principles define the function of an exhibition, but also provide a step-by-step guide to create more effective visitor engagement.

In the hopes of creating a more engaging environment, museums have been forced to consider the audiences' attention spans during their visits. By studying the movements and memory of visitors, museums have a better understanding of how actual engagement can manifest in a museum space. As Beverly Serrell states, "With real rather than ideal visitors in mind, we can plan

[7] McLean, *Planning for People in Museum Exhibitions*, 17.

[8] McLean, *Planning for People in Museum Exhibitions*, 17.

[9] McLean, *Planning for People in Museum Exhibitions*, 16.

and deliver more effective interpretation in our galleries."[10] This shift from the ideal to the real visitor has legitimate outcomes for museums and in response to this, museums have paid closer attention to how they are surfacing information.

When applying this methodology to wall text, and reading, as a modality, research has found the "limitations of attention prevent visitors from simultaneously attending to both labels and objects."[11] When offered the choice between a label and a three-dimensional object, visitors first look at objects. As Bitgood surmises, "Since the focus of visitor attention is primarily on three-dimensional visual experiences, this is where interpretation should start."[12]

By leveraging multimodalities, and creating a seamless communication, interpretation and meaning-making has a better chance of occurring effectively and more frequently. When applying this knowledge to the threshold, it becomes clear that a multisensory design approach is a critical piece for the success of the exhibition. According to the natural habits of a visitor, the threshold experience is not only the preemptive space for early interpretation, but posits it as the opportune place for meaning-making for the entire exhibition.

[10] Serrell, "Paying Attention: The Duration and Allocation of Visitors' Time in Museum Exhibitions", 108.

[11] Bitgood, "The Role of Attention in Designing Effective Interpretive Labels".

[12] Bitgood, "The Role of Attention in Designing Effective Interpretive Labels".

"Since the focus of visitor attention is primarily on three-dimensional visual experiences, this is where interpretation should start."

– Stephen Bitgood

This intersection of multisensory experiences, and the critical task of the threshold, can be applied as a universal design practice for any museum, as they largely underutilize the threshold and specifically the introduction wall, as an interpretative tool. However, none do so more than the art museum. It is common, in many art exhibitions, for the threshold to solely consist of the introduction wall. In doing so, the introduction wall, as a text-based interface, facilitates the entirety of the interpretation in the exhibition. The introduction wall becomes the primary platform for the majority of art historical context, significant theoretical assertions, and aesthetic examinations.

This standardized practice prioritizes the curatorial narrative, maintaining the conservative approach that defines the art museum experience. McLean describes this as the traditional "hierarchy of expertise" in which exhibitions are , "designed

around the cognitive order in the minds of curators."[13] The "curatorial mind" is then manifested within the three-dimensional space of the exhibition and any interpretative pathway for the viewer is subsequently installed as didactic wall text.

This reliance on wall text conflates with the already challenging concepts surrounding the art experience for many visitors. Largely considered the most intimidating museum type, art museums have a long history of supporting the curatorial perspective first and foremost, leaving the majority of interpretation up to the audience.[14] While this can be an enjoyable experience for many, it largely caters to the already interested visitor and can alienate those who do not feel confident with the subject matter.

John Dewey's early explorations into art appreciation suggests that, "theories which isolate art and its appreciation by placing them in a realm of their own, are not inherent" and that these ideas around art appreciation are embedded in the function of museums and "operate effectively because they work so unconsciously."[15] Art has been removed from everyday life, and placed above and beyond many viewers. Although written in 1934, Dewey's identification of why art-viewing is considered unapproachable remains true to this day. These institutions uphold the idea that art appreciation is accessible and available to any individual, but remain unwilling to remove the interpretative barriers that allow many to participate.

[13] McLean, *Planning for People in Museum Exhibitions*, 35.

[14] Dilenschneider, "Why Cultural Organizations Are Not Reaching Low-Income Visitors".

[15] Dewey, *Art As Experience*, 9.

These barriers are built due to the lack of tools provided to the viewer. Wall text, as a modality in an art museum, becomes less of an integrated tool and more of a monotonous burden. The integration of wall text in other types of museums is based on experimentation and "best practices" according to visitation. In direct comparison, art museums have long debated the balanced relationship between text and the artwork itself.[16] This debate centers on the interpretive qualities of a label, but does not question whether or not to actually include the label, much less what other interventions could supplement the label's contents.

Much of an art exhibition's interpretation is cultivated and created within the education departments, and while this is usually developed in conjunction with the exhibition, it can become an afterthought to the overall experience. Additionally this process reinforces the "hierarchy of expertise" in which an exhibition is conceptualized and designed to favor the curator. More so, this process creates a deep divide that results in the visitor usually accessing interpretative information outside of the actual exhibition in the form of special events or programming. When interpretation is not accessible within the four walls of the exhibition itself, it deflates the purpose of its existence.

[16] Pierroux and Qvale, "Wall Texts in Collection Exhibitions", 39-50.

Utilizing the ideas behind multisensory methodology, the art museum can only benefit from recontextualizing their interpretation to become a more integrated experience. Aesthetic appreciation can merge with multisensory design, further illustrating the significance of the actual art forms themselves. The traditional approach to art-viewing does not have to conflict with layered modalities, but can be further illuminated by it. The intersection between imperative information and multisensory design can create effective interpretation, break down barriers of accessibility, and support meaningful engagement, all in the threshold experience of an exhibition.

"A museum is a kind of cultural warehouse', in which the museum serves as a 'linking place."

– Sheldon Annis

LITERATURE REVIEW

THE TRADITIONAL APPROACH TO INTERPRETATION IN THE ART MUSEUM

Storytelling and interpretation in the art museum presents several challenges. Artwork, whether two or three-dimensional, is the entirety of the exhibition and therefore is considered enough. The actual layout of an art exhibition is the result of a negotiation between the curator, the artist's intent, or the collections registrar. This manifests as an aesthetic experience that upholds the traditional approach to viewing art in a museum setting. It also leaves much of the interpretation up to the visitor. With little to no narrative structure, and a heavy reliance on reading, the art viewing experience can feel intimidating for many.[17]

This traditional approach resides in the everlasting debate about what an art experience should be. Ranging from, "an emphasis on curatorial 'hangs", that feature the work itself, to the art historians' "narrative in connecting the dots and explaining relationships between works, artists, and stylistic trends."[18] At the intersection of this debate is the wall text. Interpretation and engagement largely rests on this single tool; how frequently to use it and where, or how it should be written and by who.

The wall text presents a dichotomy of shifting attitudes. "In practice, the dilemma requires navigating between views that, on the one hand, the artwork speaks best for itself and, on the other hand, text complements and enriches the exhibition experience also aesthetically."[19] This debate is entrenched in the fact that aesthetic appreciation is considered a personal and subjective experience that encourages critically analyzing largely based on personal taste. Because aesthetic appreciation is such a personal experience, facilitated interpretation on behalf of the visitor is largely left alone.

The vast quantity of cognitive-based study on learning and memory has proven that wall text and reading offers little in the way of actual engagement.[20] In relying on the wall text as the sole tool for interpretation, the art museum assumes the visitor should construct meaning purely from viewing artworks matched with

[17] Dilenschneider, "Why Cultural Organizations Are Not Reaching Low-Income Visitors".

[18] Pierroux and Ludvigsen, "Communication Interrupted", 153-176.

[19] Pierroux and Qvale, "Wall Texts in Collection Exhibitions", 39-50.

[20] Pierroux and Qvale, "Wall Texts in Collection Exhibitions", 39-50.

that of the experts who conceived of the exhibition. When considering the "ideal versus the real" visitor[21], this conception is unrealistic and confirms the "fundamentally conservative nature of art museums" in their interpretative approach.[22]

Viewing art in a museum setting is pleasant and enriching to many visitors, aligning with the long-held traditional function of the art museum. However, the museum environment and art-viewing experience largely alienates potential audiences.[23] Recent studies on "attitude affinities" towards art museums suggests that four out of ten adults have a perception of not "feeling welcomed", confirming that there are already early barriers to overcome even before on-site engagement.[24]

Additionally in comparison to other cultural experiences, art museums stand in second place, orchestras being the first, as having the most negative attitude affinities in adult visitors. In consideration of this data, the focus on the art museum's traditional approach, and the age-old debate, becomes irrelevant in regards to the visitor experience. This debate should center less on whether or not interpretation should happen, and more on how to effectively leverage interpretation in order to become more welcoming spaces.

[21] Serrell, "Paying Attention: The Duration and Allocation of Visitors' Time in Museum Exhibitions", 108.

[22] Pierroux and Qvale, "Wall Texts in Collection Exhibitions", 39-50.

[23] Howes, "The Secret of Aesthetics Lies In The Conjugation of the Senses: Reimagining the Museum as a Sensory Gymnasium", 285–300.

[24] Dilenschneider,"Why Cultural Organizations Are Not Reaching Low-Income Visitors".

As Annis asserts, “A museum is a kind of cultural warehouse”, in which the museum serves as a “linking place.”[25] The museum is a culturally designated space that has its own particular qualities and opportunities. Therefore, art museums can only benefit from incorporating stronger interpretative structures. As a unique space within the public domain, art museums can support the real human activity within them, dismantling the conservative approach to communication and engagement.

When speaking about the visitor experience and evaluation within art museums, McLean states that, “many art museums have been reluctant to embrace the practice, perhaps out of a fear that by talking to visitors, they will lose the high ground.”[26] By shifting the institution’s priorities from existing as a space for instruction to one of dialog, the creators of art exhibitions have the opportunity to welcome visitors into a space that sparks discovery.

[25] Annis, “The Museum as a Staging Ground for Symbolic Action”, 168.

[26] McLean, “Museum Exhibitions and the Dynamics of Dialogue”, 87.

Margaret Winslow

“Ensuring that stories are appropriately documented, and that those histories are told with accuracy through real voices.”

– Margaret Winslow

A curator is a designated cultural profession in which communication is the foremost objective. By selecting and reframing objects, the curator bestows value and signals to the audience to take it seriously.[27] Although the visitor is assured of the object’s legitimacy, personalization is necessary for any level of engagement.[28] McLean asserts, “It is something that exists largely independently of the designer’s message. For the visitor, it is something to be found or created.”[29]

Within the art museum, the reliance on the wall text and the curatorial perspective is inevitable, however when developing this wall text intentional considerations can instigate engagement. In speaking with Margaret Winslow, Curator of Contemporary Art at the Delaware Art Museum, about increasing interpretation in the galleries, she confirmed that this personal experience is critical. Winslow’s professional practice incorporates community voices in wall text as a strategy to not only appropriately document history and these narratives, but as a way to further create relevance and resonance within the exhibition.[30]

[27] McLean, “Museum Exhibitions and the Dynamics of Dialogue”, 168.

[28] McLean, “Museum Exhibitions and the Dynamics of Dialogue”, 168.

[29] McLean, “Museum Exhibitions and the Dynamics of Dialogue”, 168.

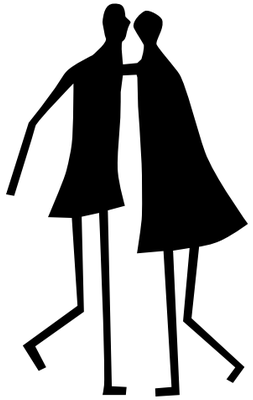
[30] Margaret Winslow (Curator of Contemporary Art), in discussion with the author, March 1, 2021.

"It is something that exists largely independently of the designer's message. For the visitor, it is something to be found or created."

– Kathleen McLean

By way of utilizing the local community voices of Wilmington, Winslow creates spaces that tell stories instead of informing and instructing. The wall text, as an interface, remains a constant, but the pathways to relevance are open to the viewer.

Intentionality behind interpretation offers the visitor the opportunity to not only engage with the content more fluidly and easily, but access it's relevancy and thus make it memorable. This intentionality can inform the wall text, however by relying solely on wall text, and the work itself, the art museum will continue to wrestle over the debate of interpretative priorities, ignoring the potential intersections of content and sensory perception to be utilized as a tool.



EMBODIED EXPERIENCES AS ENTRY POINT

In order to better understand how to incorporate multisensory techniques into a threshold experience, designers engage with content through embodied experiences. Embodied experiences are the result of memorable interactions as well as the "associations, recollections, and imaginations" that "contribute to the overall effect beyond what is explicitly presented and expressed."[31] In order to construct these interactions, designers must focus on the visitor and the combining of sensory intersections. Experiences, and therefore memories, are not defined by one sense, but rather the "aesthetic arises at the intersection of the senses."[32] This layered approach allows the content to be disseminated more effectively and creates more memorable experiences. This is where engagement begins.

In 2017, *Desert X* took over the Palm Springs area in Southern California for several months. This site-specific exhibition offered an equal parts scavenger hunt and large-scale land art experience. With a map in hand, visitors could explore miles of desert, moving from one installation to the next. The installations themselves were located in entirely different landscapes, ranging from the Palm Springs Art Museum to a dirt bunker off the side of Interstate 111. Additionally, the free-form experience was wholly casual with no security attendants and very little signage.

[31] Pallasmaa, "Museum As An Embodied Experience", 239-249.

[32] Howes, "The Secret of Aesthetics Lies In The Conjugation of the Senses: Reimagining the Museum as a Sensory Gymnasium", 285-300.

Desert X (2017)

This resulted in a self-led exploration that became so popular, visitors flocked from around the area to participate, and in the ten weeks that *Desert X* was open, it attracted 200,000 people.[33]

Desert X offered an experience that encouraged participation on the visitors' terms, allowing engagement and memory to take priority alongside the journey. The experience included not only viewing the site-specific works, but the car ride with friends, the conversations with other participants, the act of finding the thing itself. This large-scale opportunity attracted art lovers and non-art enthusiasts on an equitable field of interpretation; one that supported exploration based on a variety of interests. It rewarded the visitor with experiences that felt unique and relevant to the individual, all of which was based in a multisensory approach.

[33] Palm Springs Life, "Desert X 2019 Is Bigger, Better, and Runs Feb. 9 Through April 21."

Desert X is one example of a larger art experience trend. In 2017, *Wonderspaces* emerged on an unused dirt plot in San Diego. Temporary facilities were constructed and housed immersive and interactive art exhibitions that attracted 60,000 participants during its two-month run.[34] Although *Wonderspaces* operated on a much smaller scale than *Desert X*, it included interaction with almost every installation. Participants could push a light-weight, wrecking ball covered in graphite to create a drawing on a wall, or play a piano that synchronized musical notes between voices and video. Similar to *Desert X*, this free-form exploration became an attractive experience for both art-lovers and non-art enthusiasts alike. The high levels of interaction and the numerous opportunities for engagement made this "pop-up" so attractive that it has since continued in successive summers, as well as spread nationally with locations in Austin, Scottsdale, and Philadelphia.

[34] La Jolla Light, "Wonderspaces' Is Wonderful: Immersive Art Experience Comes to San Diego."

Wonderspaces (2017)

Additionally, both of these experiences relied very little on any textual elements. In fact, the majority of text was found solely on marketing materials, catalogs, or the event websites. The number of participants at these events reflects the inherent interest in experiential activities, regardless of any subsidiary text. When considering the popularity of these experiences from the visitor perspective, they are wholly unique. Not only are they outside of the traditional art museum experience, much less the actual "institutional" walls, but they offer a more democratic experience. In accessing audiences by way of a different format, the art viewing experience was consequently made more accessible.

While speaking with Corey Timpson, an exhibition designer who specializes in accessible and inclusive design practices, the critical benefits of accessible experiences became clear. As Timpson stated, "It's just about providing more opportunities for engagement and therefore learning for everybody."[35] Although Timpson's practice focuses on democratizing museum experiences for disabled individuals, his layered approach to exhibition design and use of multisensory elements creates a more accessible experience for everyone.

[35] Corey Timpson (Exhibition Designer), in discussion with the author, June 10, 2020.

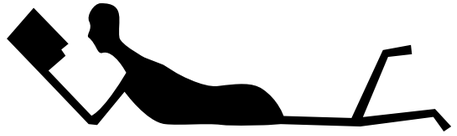
Corey Timpson

"It's just about providing more opportunities for engagement and therefore learning for everybody."

– Corey Timpson

Events such as *Desert X* and *Wonderspaces* attract large audiences primarily because they are advertised as experiences, not art. Therefore these "pop-up" opportunities attract a more versatile audience who have vastly different interests. Timpson asserts that, "The more windows, or entry points, we can create to the content and the experience, the more people are going to spend their cognitive and emotional energy on the content and the experience."[36] Designing exhibition experiences that thoughtfully consider numerous entry points offer the audience the opportunity to engage with the exhibition, and the institution, in a more memorable way.

[36] Corey Timpson (Exhibition Designer), in discussion with the author, June 10, 2020.



THE POSSIBILITIES OF EMBODIED EXPERIENCES WITHIN MUSEUM WALLS

Experiential design supports a larger argument about how multisensory experiences act as interpretative tools. Although the art viewing experience relies heavily on the visual, the use of numerous senses further engages the viewer, as an entry point and even more importantly, a memory. Mediating content through multiple modalities constructs a more embodied experience and supports the visitor in their individual exploration of the exhibition. By focusing on this idea of mediation versus instructing, the visitor has the opportunity to alternatively interact with the content in dialogue. When considering a mediation made up of multimodalities, the variation of interfaces has the potential to "enable and enhance communication."[37]

In 2016, Amanda Cacchia worked with the San Diego Art Institute to present an exhibition, *Sweet Gongs Vibrating*. This multimedia display showcased the work of artists who created art interactions specifically outside of the confines of the purely visual.[38] The big idea for the exhibition was to "activate the sensorial qualities of objects in order to illustrate alternative narratives regarding access, place, and space." As part of the process for the show, artists were encouraged to work with members of disabled communities to inform the multimodal approach to the work.

[37] Press and Cooper, *The Design Experience : The Role of Design and Designers in the Twenty-First Century*.

[38] Cacchia, "Sweet Gongs Vibrating."

Amanda Cacchia at *Sweet Gongs Vibrating* (2016)

The result was a comprehensive critique on the engagement of the senses in regards to various art forms. Not only did the exhibit offer a more equitable experience for disabled individuals, but numerous entry points for engagement and relevance for all participants. Although this exhibit was specifically catered to multisensory design for this purpose, it effectively showcased the numerous ways in which activating the senses can enhance the art viewing experience to become more embodied.

The dynamic between an embodied experience and art appreciation presents itself as a design challenge. There is debate on whether or not an embodied experience results in greater aesthetic appreciation, however providing contextual information as support has been proven to help close the gap towards a heightened appreciation.[40] When designing multisensory experiences, much should rest on the content itself and when considering this, with the intention of an embodied experience, contextualization can be a tool.

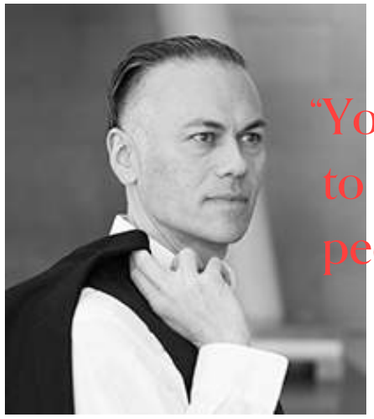
[40] Casile and Ticini, "The Role of Sensory and Motor Systems in Art Appreciation and Implications in Exhibit Design", 131–148.

Dewey suggests that, "The task is to restore continuity between the refined and intensified forms of experience that are works of art and the everyday events, doings, and sufferings that are universally recognized to constitute experience."[41] Aesthetic appreciation remains a subjective practice, however content can help supplement and affect the overall act of appreciation. A contextual framework offers the visitor a glimpse into the artwork itself, providing an access point for relevance and an opportunity for further meaning-making.

Considering this type of experience, the Victoria and Albert Museum, in conjunction with the Brooklyn Museum, presented *David Bowie Is...*; an immersive exhibition that featured over 400 objects from the personal archive of the music icon, showcasing a prolific creative process.[42] The construction of this exhibition at both locations employed an engaging use of materials including costumes, sheet music, photographs, and video performances, as well as supported an overall chronological narrative to lead the visitor through the artist's prolific career. The immersive environments supported a layered approach to the content by showcasing several artifacts, images, or video to illustrate one concept or moment; fleshing out the experience to become richer and more expressive.

[41] Dewey, *Art As Experience*, 2.

[42] Brooklyn Museum, "Brooklyn Museum: David Bowie Is."



Matthew Yokobosky

"You have to be bold, and you have to imagine what's going to bring people the most engagement."

– Matthew Yokobosky

When speaking further to Matthew Yokobosky, the curator and exhibition designer for the Brooklyn Museum exhibition location, he knew that it had to utilize certain materials to create connections for his varied audiences that were specific to New York City. Based on the content and who David Bowie was, Yokobosky incorporated artifacts and materials that would emphasize experiences for those audiences who were interested in the costumes, the music, and the theatricality of Bowie's characters.[43] Yokobosky's theater, costume, and film background additionally enabled him to utilize multimedia throughout the exhibition to incorporate the sounds and video of Bowie's performances. These clear connections effectively included interpretation from several access points, opening numerous opportunities for a variety of interests and there supported a diverse mediation of dialogue with the content.

[43] Matthew Yokobosky (Senior Curator at the Brooklyn Museum), in discussion with the author, December 4, 2020.

Impressionism, Fashion, and Modernity (Musée d'Orsay, 2013)

Considering a more traditional art viewing example, the Musée d'Orsay, The Metropolitan Museum of Art, and the Art Institute of Chicago presented *Impressionism, Fashion, and Modernity* in 2013. The exhibit identified major fashion trends from the late 1800's in Paris and the relationship between these fashions and the Impressionist art that illustrated them.[44] In doing so, the exhibition displayed historic fashion pieces on mannequins alongside famous Impressionist paintings that depicted the actual fashion, connecting the two artifacts in history. Fabrics and accessories were presented as tactile objects to help illustrate inspiration behind the designs and the visual connections were further enhanced by immersive environments such as the park-outing section, where attire and paintings were displayed while paired with grass-lined floors, evoking a garden scene. By utilizing the rich contextualization of the Paris aesthetic of the 19th century through multimodalities, the relationships between the paintings, the fashion, and the history were illuminated.

[44] The Art Institute of Chicago, "Impressionism, Fashion, and Modernity."

Although aesthetic appreciation is still a subjective experience, by providing numerous entry points by way of multimodalities, the visitor has ample opportunity for an interpretative dialogue with the exhibit. This dialogue additionally supports the idea of close-looking as an interpretative tool for meaning-making, and is central to the art viewing experience.[45] Meaning-making relies on the "ideal encounter", which requires the real thing, namely the actual object or artwork. However, this encounter also necessitates "content, conversation, and close-looking" in order for true meaning-making to occur.[46] In doing so, the real thing becomes more than just the thing itself; it becomes a memory.

The opportunity to closely look at a real object or artifact, but additionally engage with materials that help illustrate historical significance, artistic practice, or emotional relevance results in a lasting impression of that experience. Through a multimodal approach, these ideal encounters happen more frequently and are more effective.

[45] Pierroux and Ludvigsen, "Communication Interrupted", 153-176.

[46] Pierroux and Ludvigsen, "Communication Interrupted", 153-176.

THE POWER OF THE INTRODUCTION WALL AS AN INTERPRETATION INTERFACE

The introduction wall ideally illustrates the core concepts of the exhibition, but is often overlooked and becomes an afterthought in the exhibition development. The introduction wall's function is critical to the success of the interpretation within the exhibition, but rarely is the wall considered to utilize this powerful position. Alternatively, the introduction wall could be considered an incorporation of a larger threshold experience. This represents a doorway for visitors and their access is determined on their interest and confidence in the content. When examining the exhibition as an experience, McLean states that, "A designer should not assume that people will enter, however, and should give thought to the method of announcing the exhibition and inviting them in."[47]

In speaking with Zoë Ryan, the Director of the Institute of Contemporary Art in Philadelphia, she stated, "The exhibition is not the end point, it is the beginning of a conversation" and that the, "threshold experience is a multifaceted moment."[48] The threshold has the potential to not only act as a welcome invitation into the experience, but support the visitor in their journey throughout the exhibition. Pierroux suggests that questioning and conceptual thinking should occur prior to even entering the exhibition, further initiating this supportive structure.[49]

[47] McLean, *Planning for People in Museum Exhibitions*, 121.

[48] Zoë Ryan (Director at Institute of Contemporary Arts), in discussion with the author, March 28, 2021.

[49] Pierroux and Ludvigsen, "Communication Interrupted", 153-176.

Zoë Ryan

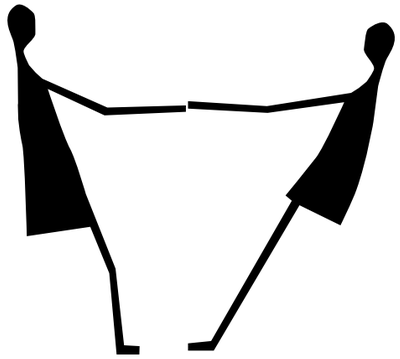
"The exhibition is not the end point, it is the beginning of a conversation."

— *Zoë Ryan*

In order to do this, museums need to reimagine the threshold's function as more than just a glorified bookend to the exhibition. By reenvisioning the introduction wall as part of a versatile and inviting threshold, interpretation as a tool can be leveraged and used throughout the visitor experience.

Graham Black, author of *The Engaging Museum,* claims that interpretation, "seeks to engage and involve the audience with the 'real thing', to encourage participation and, through that, to assist visitors to develop the skills to explore for themselves and so enhance their own understanding."[50] Interpretation includes the access point in which the visitor finds relevance. By creating an invitation versus an instruction, the threshold becomes a pivotal opportunity.

[50] Black, *The Engaging Museum : Developing Museums for Visitor Involvement*,185.

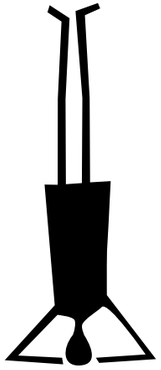


"Humans instantly weigh the effort something takes. Instinct makes us choose ease, not effort."

– Judy Rand

To reimagine the threshold experience, the designer must redefine the function of the introduction wall. This requires consideration of the visitor experience and how the potential viewer is accessing the relevant information. In defining relevancy as an experience, it is not about the visitor's familiarity with the topics at hand, but rather their innate curiosity with connecting new information to that of which they already know.[51] Relevancy is about "how likely that new information is to yield conclusions that matter to you."[52]

Additionally, interpretation also relies on the amount of effort expended to make that relevance happen. As Judy Rand surmises, "Humans instantly weigh the effort something takes. Instinct makes us choose ease, not effort."[53] Approaching an introduction wall that utilizes long bodies of text is instantly intimidating and overwhelming for many visitors. Alternatively, "the perception of ease is as important as the reality of ease."[54]



[51] Simon, *The Art of Relevance*.

[52] Simon, *The Art of Relevance*.

[53] Rand, "Less Is More. And More Is Less", 6.

[54] Rand, "Less Is More. And More Is Less", 6.

This does not assert that the introduction wall aim to lessen its impact by decreasing its word count, it suggests that by diversifying this impact it can support faster and more assured interpretation based on the "real visitor" and their very real behaviors. By utilizing the imperative content of the exhibition to inform a multimodal approach, the design, "allows visitors to concentrate their energies on what matters – engaging with collections and creating their own meanings – rather than on trying to work out what is going on."[55]

In a recent site-specific installation at the Baltimore Museum of Art, artist Mikalene Thomas transformed the facade of the museum for her exhibition, *A Moment's Pleasure*.[56] As the introductory piece to the exhibition itself, Thomas constructed several row house facades with the typical brick designs and stoops specific to Baltimore. The facade acted as the threshold experience for her two-story installation inside the museum that introduced her signature artistic aesthetic. By constructing this facade threshold, Thomas facilitated a unique introductory experience anchored in a sense of place and familiarity to potential visitors. In doing so, not only did Thomas connect it directly with her work, but supported the visitor in further understanding the work throughout the exhibition.

[55] Black, *The Engaging Museum : Developing Museums for Visitor Involvement*, 185.

[56] Baltimore Museum of Art, "Mickalene Thomas: A Moment's Pleasure."

A Moment's Pleasure (2019)

This threshold experience effectively acted as the vehicle that invited participants into something familiar, yet allowed them to make their own connections. As the entire facade of the building entrance, this introduction showcased the "reality of ease"; a threshold that was friendly and welcoming. It relied not purely on text to accomplish this experience, but rather a multitude of sensory activations, thereby cementing an emotional response and making it memorable. By successfully utilizing the content of Thomas's work to reflect possible connections and relevance, the introduction acted as a mediating interface that became completely irrelevant of text.

The art museum, unlike other types of museums, relies on art as the sole content of an exhibition. With this in mind, visitors utilize the only interpretative tool afforded to them; wall text. With the knowledge that little to no additional interpretation will be included in the exhibit, visitors are aware that the introduction wall will orient them with the relevant information and overarching themes that will enable them to experience art appreciation.

By expanding on this already standardized practice, the art museum should be empowered to reimagine what the threshold experience of an exhibition can do. The threshold experience will indefinitely include wall text, however by incorporating a multisensory approach, the wall text has the potential to more thoroughly illuminate the information and positively affect the visitor experience.

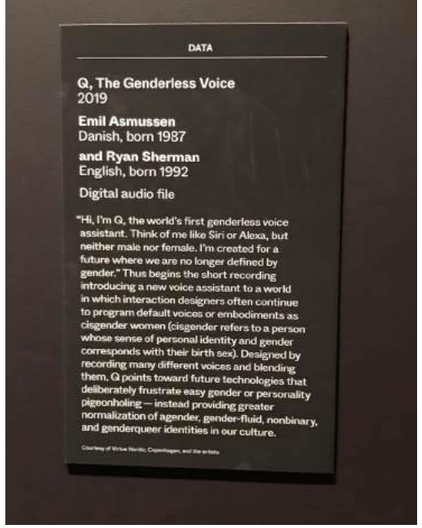
CASE STUDIES

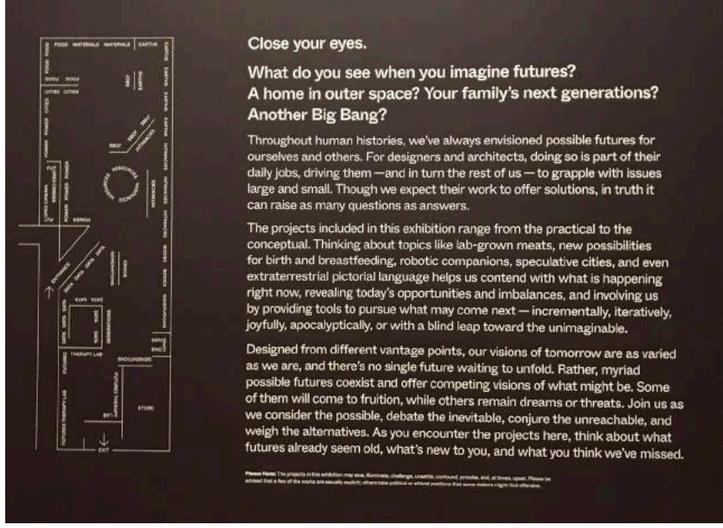
DESIGNS FOR DIFFERENT FUTURES

In October 2019, the Philadelphia Museum of Art opened *Designs for Different Futures*. This exhibition examined the potential futures of our society through science and design. The exploration examined ideas and "solutions" that ranged anywhere from feeding our ever growing populations to negotiating privacy in our increasingly public spaces.[57] The exhibition capitalized on the thin line between science, technology, and art; calling into question what was reality and what was manufactured imagination. The exhibition was uniquely designed as a thematic exploration where the visitor could unpack various aspects of our contemporary society, initiating critical thinking and questioning about what already exists and what is possible.

[57] Philadelphia Museum of Art, "Designs for Different Futures."

Designs for Different Futures (2019)





Designs for Different Futures (2019)

This critical thinking piece was essential to initiate for visitors early on in the exhibition. Entering the exhibition, audiences would hear a short audio recording by *Q, A Genderless Voice.* This audible intervention introduced the world's first genderless voice assistant, similar to that of Alexa or Siri. While many voice assistants are currently designed with distinctly male or female voices, this recording represents a future in which our society is not defined by gender. The audio element immediately provoked interest and wonder, engaging the visitor while orienting them.

Paired with the audio recording, visitors were prompted with questions to further orient them to what they were about to experience. *"Close your eyes. What do you see when you imagine futures?"*[58] This active language initiated action that enabled the audience to further position themselves within the exhibition, while introducing them to the content. Additionally, a map of the themes was provided; literally laying out orientation and a path for exploration.

This highly conceptual art exhibition demanded critical thinking from its audience. The threshold experience aptly promoted early interpretation by layering experiences with an audio element, thought-provoking text, and a map. In order to support the visitor in their examination of technology, science, design, and art, the threshold offered an early glimpse into the imagination mindset that a visitor should adopt to enjoy the exhibition.

[58] Philadelphia Museum of Art, "Designs for Different Futures."

STUDIO 54: NIGHT MAGIC

The Brooklyn Museum opened *Studio 54: Night Magic* in March 2020. The exhibition chronicled the rise and fall of the infamous New York City nightclub that became a beacon of fashion, aesthetics, and trailblazing art forms. The exhibition featured photography, design drawings, film, and fashion items; contextualizing the innovations and the iconic shifts that occurred within social transformations. When speaking with the curator and exhibition designer for the showcase, Matthew Yokobosky, he stated that the nightclub was really about an environment that could continually change, and so the exhibition was always going to be multimedia."[59]

[59] Matthew Yokobosky (Senior Curator at the Brooklyn Museum), in discussion with the author, December 4, 2020.

Studio 54: Night Magic (Brooklyn Museum, 2020)

Studio 54: Night Magic (Brooklyn Museum, 2020)

Studio 54 was an old theater production stage that was then transformed into a nightclub, but many of the theatrical elements were vital to the success and infamy of the space. While considering the overall exhibition development and design, Yokobosky mentioned that the entrance to the actual nightclub was a key aspect, and was therefore critical for the exhibition. "I am very much about setting the mood when you walk into the show," Yokobosky then further explained how he utilized lighting, visuals, and video to set the scene. "When you first entered the area where they collected the tickets, I had a video projection of people arriving at Studio 54 in limousines in 1977, and then I had a projection of the Studio 54 logo on a red velvet curtain."[60] This immediate entrance offered an immersive opportunity.

[60] Matthew Yokobosky (Senior Curator at the Brooklyn Museum), in discussion with the author, December 4, 2020.

The multisensory elements that Yokobosky utilized to construct the threshold experience reflected the very real experience of entering the nightclub itself. These tactics mirror the theatrical aspects of the content, which supported the visitor as they entered the gallery. As the threshold experience is an interstitial space from one world to another, these additional elements enhanced the exhibition content while simultaneously orienting the audience. The creation of the space offered early interpretation and supported the introduction wall of the exhibition.

In further consideration from the curatorial perspective, Yokobosky mentioned that the content choices were based on what emphasis was placed where. The negotiations between the curatorial narrative and the designs required a through-line of intentional decisions that aimed to reveal the narratives and promote interpretation. As Yokobosky stated, "You have to be bold, and you have to imagine what's going to bring people the most engagement."[61] From a curatorial perspective, this shifts the conversations from what is being included to how they are being included, further promoting the ideas behind of audience advocacy.

[61] Matthew Yokobosky (Senior Curator at the Brooklyn Museum), in discussion with the author, December 4, 2020.

Does the design intervention increase visitor engagement?

PROJECT

In consideration of the previously stated research, the thesis question required a project that would explore aspects of art-viewing and interpretation through multimodal elements. This exploration included a designed threshold experience that was evaluated for visitor engagement. To better understand how the redesigned experience would be examined, it was organized as a comparative analysis which specifically addressed the experience prior to and post the design intervention. By creating a comparative analysis between what an art museum considers standard practice, namely the introduction wall, and the redesigned multisensory threshold experience, the findings examined visitor interaction and engagement with the threshold experience in relation to the overall exhibition.

THE TOOL

The prototype for the threshold experience was designed based on “interpretative connectors”. Inspired by a traditional art-viewing experience, interpretative connectors are categories that are universal and relevant to any art form, exhibition type, or scale of institution. These categories act as guidelines to unpack the information and further establish the intentional support for visitor engagement and interpretation. Any art exhibition and its presented content can be categorized within one or more of these connectors, informing a multisensory design that aims to create connections between the viewer and the content. Additionally, the designs, with the help of the connectors, provide greater resonance with the viewer and support interpretation throughout the exhibition by constructing an embodied experience.

INTERPRETATIVE CONNECTORS

CONTENT What was the artist’s intention? What is it showcasing?

PROCESS What methods were employed to construct the work?

MATERIALITY Are there unique features about the materials used?

HISTORY Is there any significant history associated with the work?

SOCIAL Does the piece demonstrate social significance?

CULTURAL Is the piece specific to any cultural constructs?

FORM Are there unique formal qualities?

PERCEPTION Does it alter perceptions about contemporary life?

The curatorial narrative begins the hierarchy of information that ends with the visitor's interpretation. This process can take years to come to fruition and intentions can become blurred or lost by the end. The interpretative connectors act as a tool to focus this narrative back to the root themes, motifs, and content that help describe the art and examine its nuances. The art-viewing experience remains subjective and personal, but is heightened by context and information to enable individual relevance.

The connectors work to reveal understanding in a more effortless manner, while further removing barriers between the visitor interpretation and the curatorial intent. This bridge is critical for audiences to access in order to properly and effectively participate in a dialogue with the art, and ultimately, the museum. By harnessing the art-viewing experience, the connectors not only reach audiences that are already engaged, making their interpretation more enjoyable, but build bridges for those who find the experience intimidating or inaccessible.

From an internal perspective, the interpretive connectors act as a tool kit that allows administrative staff, curators, and designers the ability to unpack information and make it more accessible, layered, and engaging. The art-viewing experience is already professional practice for curators and educators as many of these ideas are utilized in educational programs and events. By deconstructing them to building blocks, aspects of art theory can be applied and acquired on behalf of the visitor. Furthermore, the intentional delineation and ultimate construction of these building blocks allow designers the substance to create layered, multisensory design approaches that more fluidly showcase the information that is already present.

The implementation and execution of what an interpretative connector can be is entirely relative to the art at hand. The connectors are broken down into broad, yet overlapping categories, and are meant to be paired together in endless combinations. Each connector captures a various aspect of art theory that constructs the foundation of the art-viewing experience. In teasing out these categories, the versatility of the artworks are accurately expressed and accounted for. Most importantly, it enables the internal staff a pathway to present this information effectively to their audience.

Art institutions range from small to large, and can showcase art that covers from ancient to contemporary works. Additionally, fine art is presented in solo or group shows, and the type of work can range from painting and sculpture to performance and installation. This broad spectrum defines that institutions offer a variety of experiences based on many different factors. The interpretative connectors offer a scalable tool that both addresses the diverse needs of art institutions, and directs exhibition design to reflect the museum and their thoughtful narratives.

In regards to budgets, resources, and staff, the interpretative connectors could manifest merely as a tactile texture that allows visitors to engage with materiality, or an entire threshold experience that incorporates light, sounds, and visuals. Regardless of the physical or human capital the museum has, the interpretative connectors can be used to create low-budget exhibition elements or more expensive, immersive experiences. The connectors are a universal tool that simply centralizes the ideas and thoughts behind the exhibition, and utilizes the already created stories and information; illuminating them to the visitor, and in doing so, constructing a more embodied experience.

BUILD

Appearances (2021)

In order to demonstrate how the interpretative connectors function, the prototype had to centralize the ideas behind the exhibition. *Appearances* was a group show that included 16 contemporary artists, all working within a range of mediums. The concept behind the exhibition was conceived of by artist, Lauren E. Peters, who is a figurative oil painter and a resident studio artist at The Delaware Contemporary. Peters work involves documenting herself in a series of self portraits, in which she adorns outfits and wigs, and then takes photographs to then later paint. This process enables her to initiate reflection throughout different phases of the work.

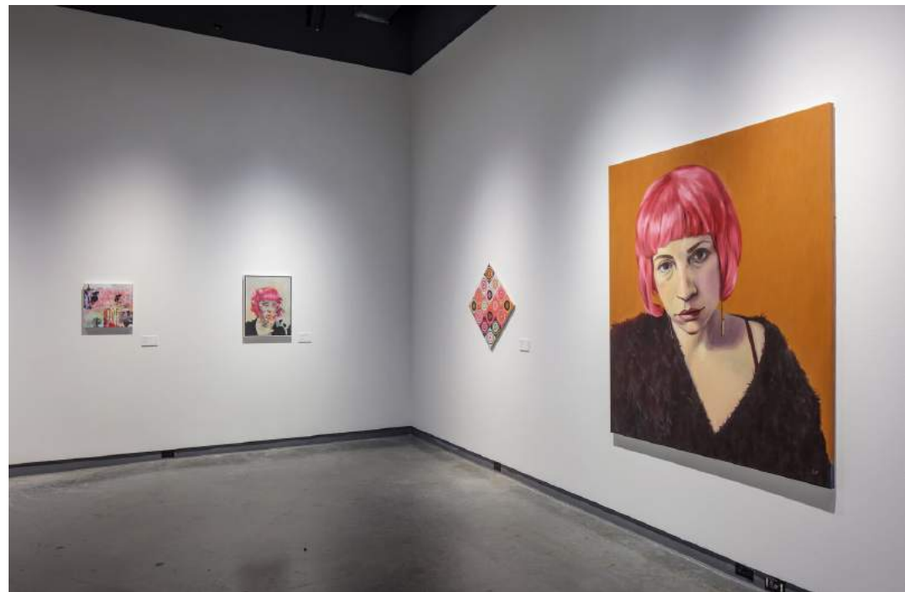
Appearances (2021)

For *Appearances*, Peters was interested in creating a dialogue in reflecting about growth. In doing so, Peters chose a well-known piece of previous work to redo while considering her own personal growth in her own practice. Additionally, she gave this work to other artists; inviting them to reflect and interpret their personal dialogues through their individual mediums and practices. The result was a 16-person showcase of work that incorporated painting, sculpture, fiber, and performance. In order to address the variety of the presented work, the threshold experience would need to incorporate the themes, motifs, and content in a succinct and expressive manner.

While working with Peters on the development of this showcase, two interpretative connectors rose to the surface as most relevant and therefore the two that would inform the prototype within the threshold experience; Content and Perspective.

Content was a key aspect of this exhibition as the process of each work echoed the larger exhibition concept, namely self-reflection. Although each artwork showcased a different materiality, the artists and their works presented a larger theme that connected them, and this became key to understanding and interpreting the individual works.

Appearances (2021)



Additionally, perception was another key feature as the process of each work was highly conceptual. The showcase attempted to provoke the artist to reflect and envision themselves as this “Peters character”, and in doing so, provoke the viewer to do so as well. Because of the nature of the show, the gallery was filled with varied versions of this character, which enabled the visitor to consider the diversity of interpretations.

After defining the interpretative connectors to utilize, designs for the prototype became a more directed experience. With the audience in mind, advocating for proper interpretation centered the approach and informed the resulting threshold experience.

THE CONTENT

Based on the interpretative connector, the prototype for the project was constructed with key ideas in mind that informed and directed the design. While considering the project’s outcomes, certain goals and objectives were defined.

GOALS & OBJECTIVES

ESTABLISH interpretative connectors and demonstrate a versatile selection of the connectors within the exhibition.

SHOWCASE how the interpretative connectors can be scalable for a variety of art forms, exhibition types, and institutions.

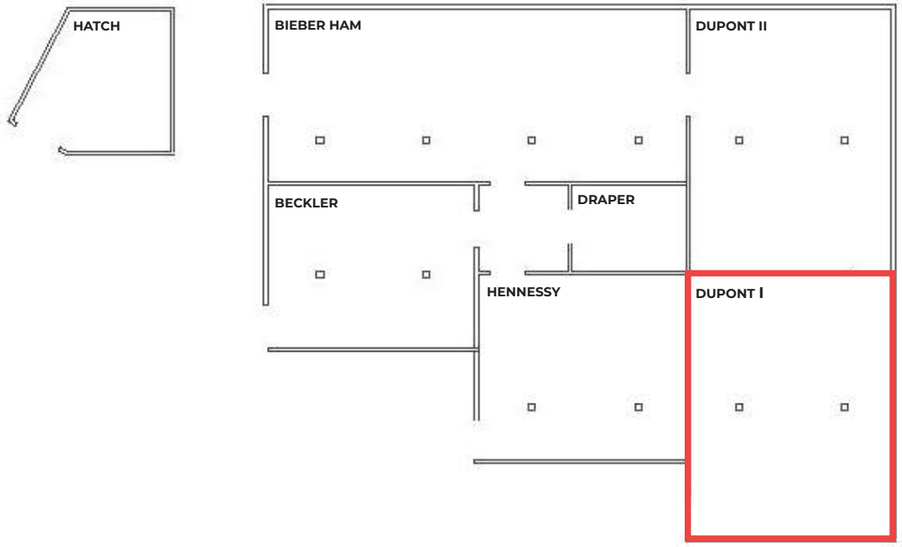
MEASURE the threshold experiences with and without the use of the connectors through observations.

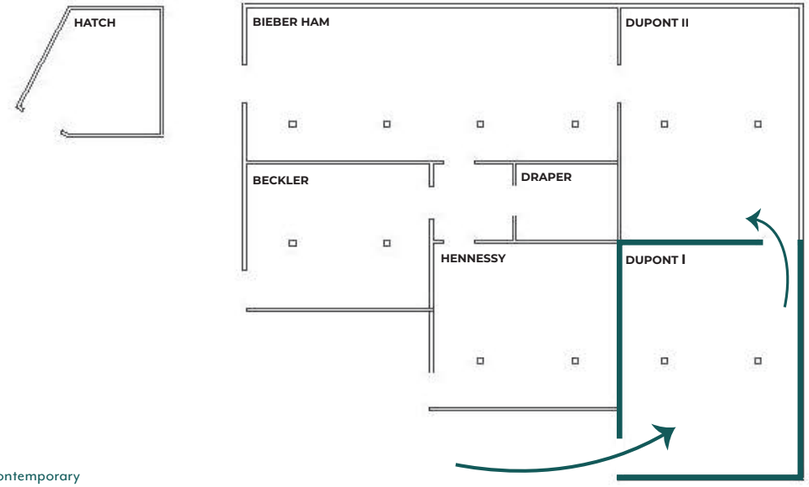
The Delaware Contemporary

A collaboration with The Delaware Contemporary was established as the site for this project. Located in Wilmington, Delaware, The Delaware Contemporary is a non-collecting art museum that acts both as an art space for resident studio artists and showcases a variety of compelling exhibitions year-round. Exhibitions at The Delaware Contemporary are installed on a seasonal basis; Summer, Fall, and Spring. The planning and execution of this project took place during Fall 2020, and into Spring 2021.

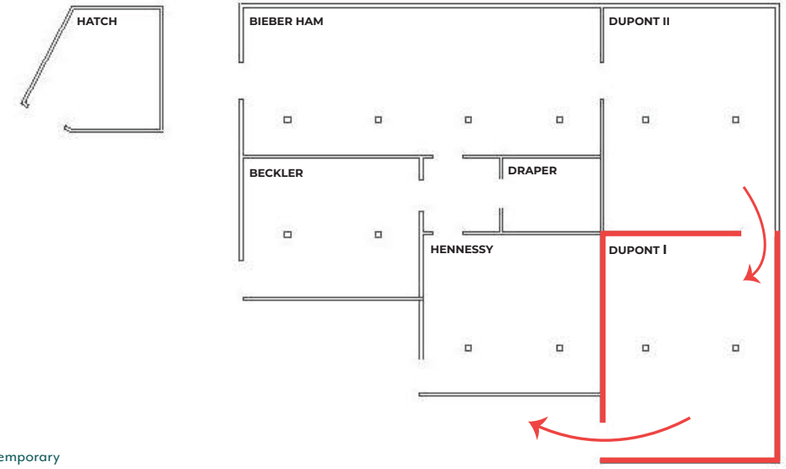
The Delaware Contemporary has six gallery spaces of varying sizes that are constructed in a labyrinth; each interacting with the others in a winding path of thresholds and exits. There are several entrances at different points in the gallery spaces, but some are not accessible from the lobby. *Appearances* was installed in the DuPont I Gallery, which has an entrance out to the lobby and is also attached to the DuPont II Gallery. The gallery is a 800-square foot rectangle with two columns centrally located in the space.

Gallery Floor Plans of The Delaware Contemporary





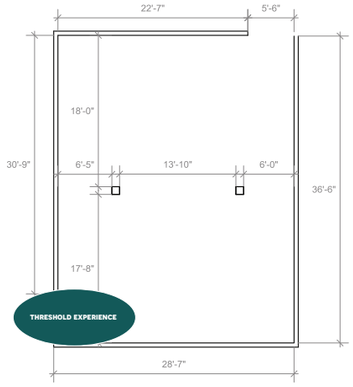
Assumed visitor flow of The Delaware Contemporary



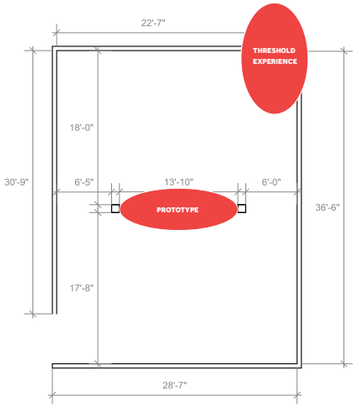
Observed visitor flow of The Delaware Contemporary

In consideration of the space, it had to be determined where and how the prototype would be located to be most effective while not encroaching on other works, but still remain incorporated with the didactic panel. Additionally, the majority of visitors were entering the space through the north entrance connected to the neighboring gallery. This presented a constraint as the threshold experience was so short it became almost nonexistent. As a visitor exited DuPont II, they barely interacted with the threshold before moving into the gallery space. Based on both the items themselves and the space in which they were installed, the design ultimately enlarged the overall threshold experience.

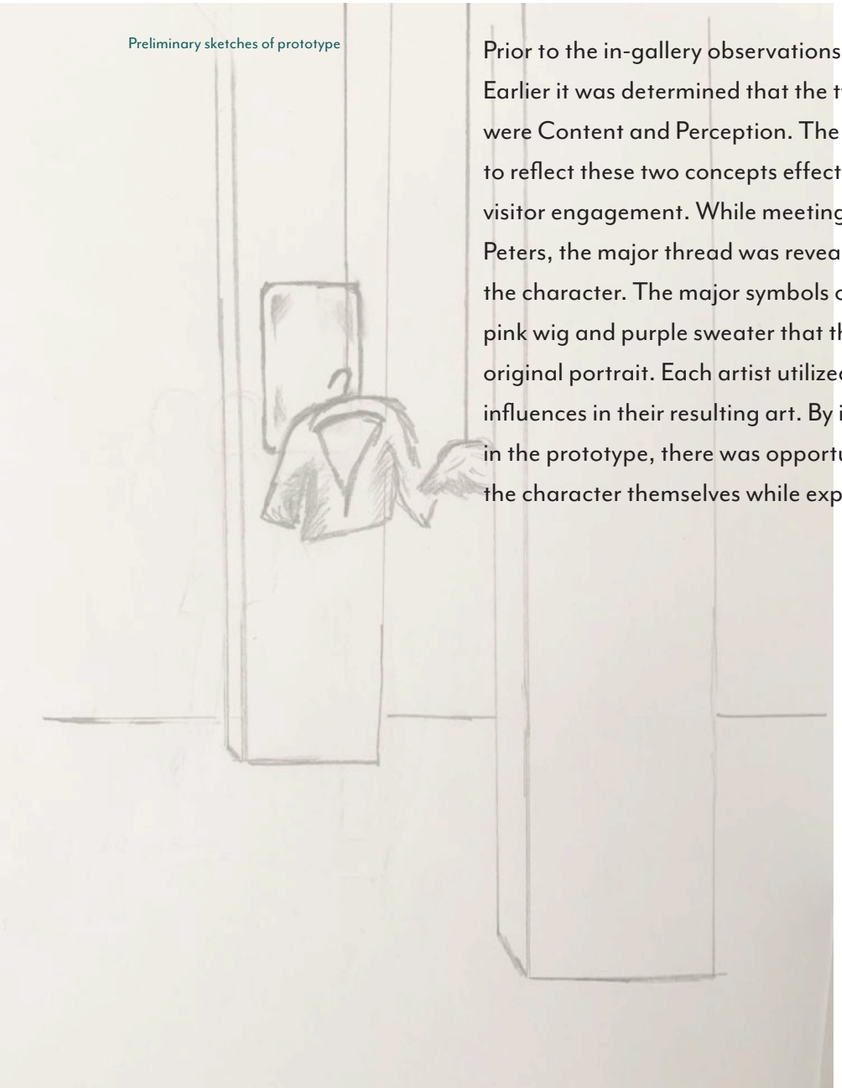
Assumed visitor flow of DuPont I Gallery



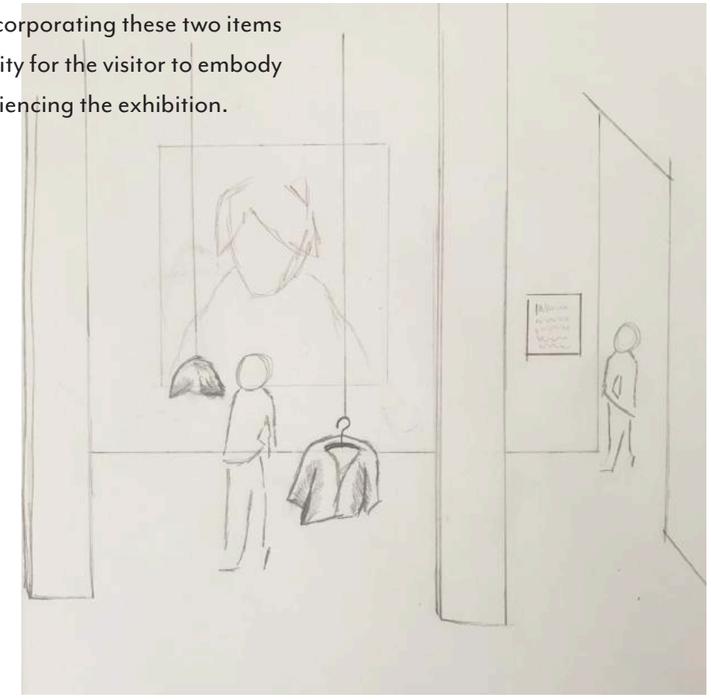
Observed visitor flow of DuPont I Gallery



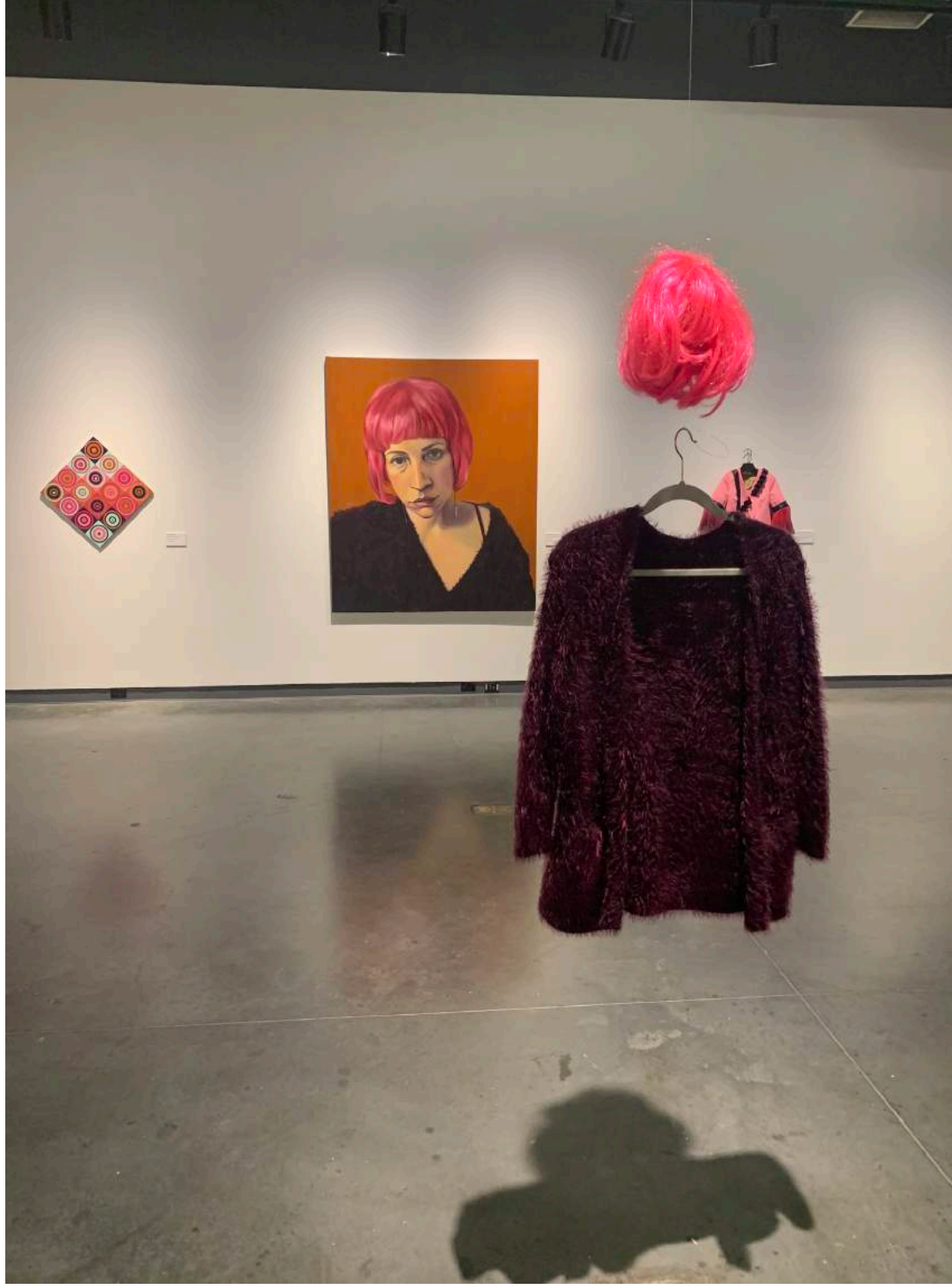
Preliminary sketches of prototype



Prior to the in-gallery observations, the prototype was created. Earlier it was determined that the two interpretative connectors were Content and Perception. The multisensory design needed to reflect these two concepts effectively and in doing so, enhance visitor engagement. While meeting with the artist Lauren E. Peters, the major thread was revealed to be the embodiment of the character. The major symbols of this character were the iconic pink wig and purple sweater that the character is wearing in the original portrait. Each artist utilized these two items as major influences in their resulting art. By incorporating these two items in the prototype, there was opportunity for the visitor to embody the character themselves while experiencing the exhibition.



Installed prototype in DuPont I



The wig was placed above the sweater, suspended in space to evoke an invisible character purely defined by the two items. The pieces were hung centered between the two columns and small mirrors were installed on both interior sides of the columns. This enabled a participant to “see” themselves in the corresponding mirrors as they interacted with the character. Additionally, the two suspended items were tactile pieces that participants could physically engage with.

Prototype in *Appearances* (2021)

Prototype in *Appearances* (2021)

TEST

Does the design intervention increase visitor engagement with the threshold experience?

Observations sought to capture the interaction between the visitor and the introduction space. Baseline questions were asked in order to construct the criteria.

Do participants use the introduction experience? How much time do they spend within the threshold experience? Are there any behavioral indicators as to why they use it? Are there any physical cues that participants are giving that signal that interaction? Does the redesigned experience extend their interaction?

Based on these inquiries a series of questions were created to frame the criteria and direct the data synthesis. By gathering information about both the threshold experience and the overall exhibition, the collected data intended to construct a larger framework of reference. In preparation, a series of interviews was conducted with research-based experts who are well versed in appropriate evaluation techniques.

INTRO WALL

— How frequently are visitors using the introduction experience?
— How long are visitors interacting with the introduction experience?
— What are the observable behaviors that indicate engagement?

OVERALL EXPERIENCE

— How long do visitors spend in the gallery?

"It is through analysis of social interaction that we can study how meanings are realized, coordination takes place, and 'gaps' in understanding become closed through design."

– Palmyre Pierroux

Palmyre Pierroux

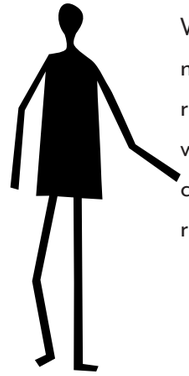
After speaking with Palmyre Pierroux, Head of Research at the University of Oslo, about evaluation techniques and research-based practice, it was determined that the observed participants should be delineated between individuals and groups. Pierroux asserted this requirement due to the inherently increased engagement in groups. Based on the nature of numerous individuals participating as a group, there is an automatic increase in conversation, a higher chance of documentation or photography, and therefore physical engagement within the space. Although individuals and groups may be engaging similarly mentally, observations of groups would need to be done separately because they would generally display more behavioral indicators. This factor would require separate results based on the number of participants.

"The places where visitors stop most often are also among those frequently mentioned as most memorable."

– Beverly Serrell

Beverly Serrell

In conversations with Beverly Serrell, author or *Exhibit Labels: An Interpretative Approach*, it became evident that measuring interpretation and engagement is nearly impossible without lengthy evaluation techniques, including interviews and follow-up memory assessments. In order to capture purely qualitative data, the evaluation would be conducted anonymously through observation. With this in mind, the evaluation criteria needed to consist of measurable cues that could be then translated to indicate levels, or ranges, of engagement. As a comparative analysis, these ranges would then help signal any changes in engagement. This evaluation criteria would require standardization to accurately measure the results prior to and post the design intervention.



MEASURES

For the purposes of this project, engagement was measured by three variables; Attention Power, Holding Power, and Behavioral Indicators. The data collected on these three variables helped contextualize how the participants used the threshold experience, both prior to and post the design intervention.

ATTENTION POWER indicated whether or not the participant interacted with the introduction wall, or the prototype, depending if evaluation was conducted prior to or post intervention.

HOLDING POWER is the amount of time that the participant interacted with the introduction wall, or the prototype, depending if evaluation was conducted prior to or post intervention.

BEHAVIORAL INDICATORS included any physical indications.

As participants entered the gallery space, they were delineated between groups and individuals. A timer was set to capture overall time spent in the exhibition. This information was collected in order to better understand how long a participant, or group, spent in the exhibition. Although not a critical factor of the research, this data contextualized the level of engagement with the introduction experience by better understanding how the participant interacted with the entire exhibition.

If a participant interacted with the introduction wall, this was marked as a positive for Attention Power and, if applicable, noted with any Behavioral Indicators. Additionally, a second timer was set to capture the Holding Power, which was additionally marked with any relevant behaviors. Behavioral Indicators manifested as any activity by participants to further understand the functionality of the experience, such as conversation between participants, photographs taken, or returning to the experience for additional information.

PROCESS

Appearances was installed and opened on January 16, 2021. A timeline was created and confirmed between The Delaware Contemporary, Lauren E. Peters, and the author that stipulated a selection of weekends in which observations would be conducted. While working with Peters, it was decided that the designed prototype should be installed in time for the First Friday Art Loop event happening on February 5th. In order to capture data prior to the design intervention, three weekends were available to conduct the evaluation research. Following the February 5th event, the prototype would be installed for the remainder of the show, so there were more opportunities to collect data post the design intervention.

Each observation took place on a Sunday, over a two to three hour period. The author performed all observations, methodically using the established evaluation criteria. In order to create the levels of engagement to analyze, the qualitative data was collected both (PRE) and (POST) the prototype. The baseline criteria was then applied to both sets of data to create the comparative analysis.

(PRE) THE PROTOTYPE

On January 17th and January 25th, observations were conducted over a three-hour period. Over these two-weekend periods, a total of 28 participants were observed, with *27 of those being in groups and one individual visitor.* The author waited in the museum lobby for visitors to enter the museum. They were then visually delineated between individuals or groups. As the visitors navigated through the exhibitions, the author would conspicuously set-up within the DuPont I Gallery and wait for them to enter. Upon their arrival, a timer was set to measure the overall time spent within the space. As the visitor(s) moved through the exhibition, the three measures (Attention Power, Holding Power, and Behavioral Indicators) were collected.

(POST) THE PROTOTYPE

On Wednesday, February 3rd, the prototype was installed in the exhibition space. Based on the materials, the wig and sweater were suspended with plastic wire from the light track of the gallery space. Centered within the two columns within the space, the suspended elements were buttressed by two small mirrors that were installed on the interior walls of each column. The mirrors were hung at a 60-inch mid-line, and the suspended elements were installed to match the visual reflection of the mirror. Although not exact, this allowed visitors the ability to access the prototype whether or not they were the correct height.

Following the installation of the prototype, observations were conducted on February 14th, the 21st, and the 25th, as well as March 5th. Due to the length of time the exhibition had already been up, capturing participants during these dates proved to be harder and consequently, less participants were observed. Over these four observations days, a total of 20 participants were collected, with *13 in groups, and 7 individuals.*

The author conducted these observations under the same conditions and criteria as the (PRE) observations. However, due to the increased opportunities for interaction in the threshold experience, the data had to reflect how participants were interacting with each component. Therefore, the Attention Power now defined whether the participants interacted with the introduction wall and not the prototype, the prototype and not the introduction wall, both, or neither. This delineation was important because the prototype was testing the incorporation of all components in relationship to one another.

DATA ANALYSIS

ATTENTION POWER

Attention Power was delineated between individuals and groups. Each of these sets of data were then calculated to reflect the percentage of participants who either interacted with the introduction wall versus those that did not. As previously stated, the (POST) data additionally delineated between four scenarios of interaction to better examine the incorporation of the individual components.

HOLDING POWER

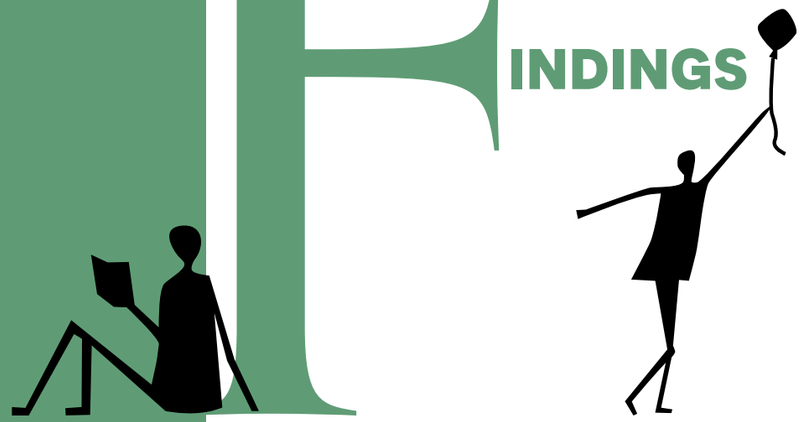
Holding Power was also delineated between individuals and groups, and was measured in seconds. Each set of data was calculated to reflect the average time spent interacting with the threshold experience space.

In addition to this average, the Overall Time Spent in the exhibition was measured within a five minute block. Participants were divided into three ranges of time blocks; (1 - 2 MIN), (3 - 4 MIN), and (5+ MIN). Based on the data codifications of the data, the ranges were then calculated as percentages.

BEHAVIORAL INDICATORS

A point system was established to quantify the Behavioral Indicators. The range of engagement was defined by a five-point system. Each time a participant displayed a Behavioral Indicator, they were allotted a point. These points were then added up and the participant was given a total number of points. The points system was defined as; 0 points for no interaction and then subsequent points for reading, photography, dialog, physical interaction, comments/review, or returning to experience. The final number of points were then characterized into ranges of engagement; Low (0 - 1 points), Medium (2 - 3 points), or High (4 - 5 points). These ranges of engagement were then translated into percentages to reflect the participation.

FINDINGS



Based on the collected data, the threshold experience that included **the prototype increased the higher ranges of engagement.** This increase was noted by most of the qualitative data collection, but particularly so by the Behavioral Indicators. The conducted study also revealed information about the incorporation between components and the importance of creating those clear connections.

Some immediate observations uncovered potential barriers. Because there are technically two thresholds to the DuPont I Gallery, visitor flow revealed that the didactic introduction panel was on the threshold that was largely used as the exit. As the only didactic panel in the room, save the individual artwork labels, the introduction panel was immediately apparent. It was noted that several participants accessed the panel regardless of its location, ultimately crossing the room to read it. These instances were largely the exception to the rule. Generally, participants would access the introduction wall while moving through the gallery space or as they exited.

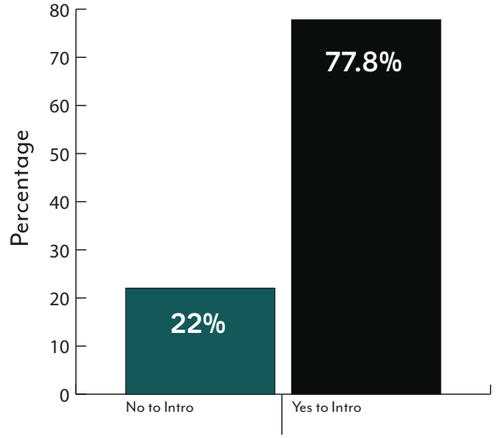
These observations were taken into account, and subsequently, it was decided to move the didactic panel to the more readily accessed wall as part of the redesigned threshold experience. This was required to record the most accurate information about how the didactic panel was incorporated into the overall threshold experience.

ATTENTION POWER

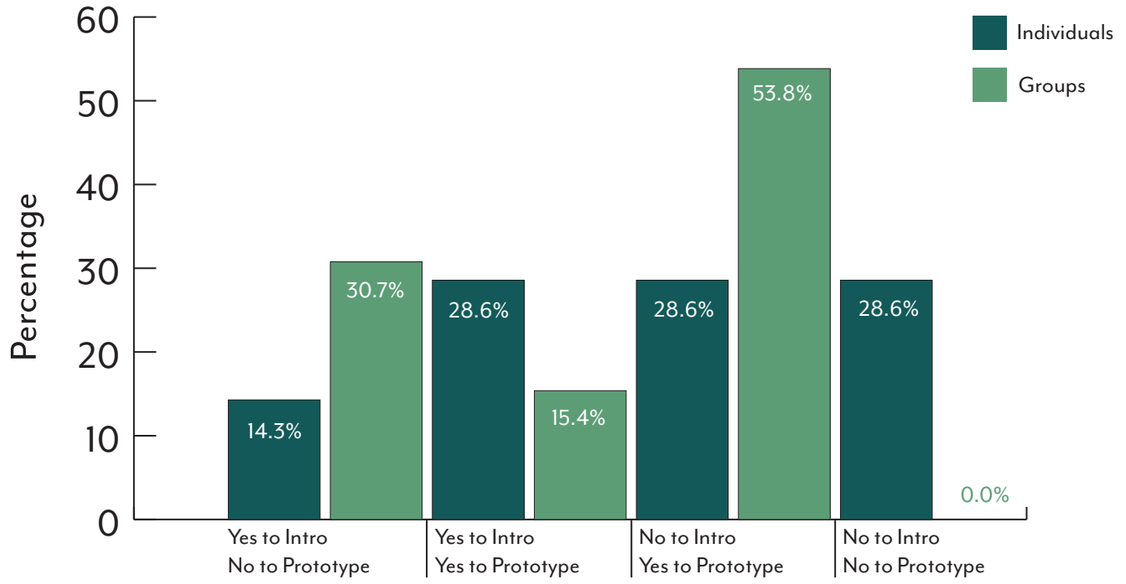
Regardless of the location of the introduction wall, of the 28 participants observed, 77% within groups and 100% of individuals interacted with the didactic panel. The completed research firstly examined if participants were using elements of the threshold experience. The (PRE) data established that 77% of the participants interacted with the introduction wall. In comparison, the (POST) data concluded that 53.84% of the participants interacted with the prototype and not the introduction wall. In consideration of this comparison, it suggests that participants were more likely to engage with the three-dimensional component versus that of the didactic label.

The other large percentage of the observations concluded that 30.76% interacted with the introduction wall, which implies that participants were still utilizing the didactic panel regardless. Only 15.38% interacted with both the prototype and the introduction wall, suggesting that there could have been better incorporation between the two components.

(PRE) THE PROTOTYPE



(POST) THE PROTOTYPE



There were several constraints that should be considered when examining this comparative data point. The gallery space is located within the labyrinth and therefore has a small threshold experience. As a six foot doorway that connects two galleries with entirely separate exhibitions, the opportunity for multisensory components is small. In order to create a threshold experience for one gallery, it would require the other gallery to be affected. When considering the entirely separate artistic intentions of both gallery spaces, the balance between these two spaces can conflict. However, better incorporation of the prototype and the introduction wall could have potentially increased the percentage of interaction with both components.

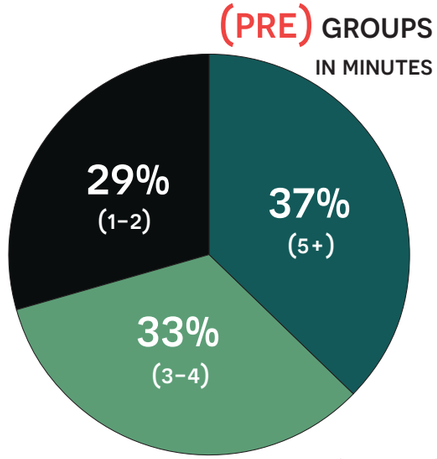
Time-based information then lends evidence towards if time spent in the threshold experience increased. Although this measurement was not resolute in terms of engagement, it can be assumed that more time spent equates to more interest. In regards to the collected data, time spent in the threshold experience was compared to that of the entire exhibition.

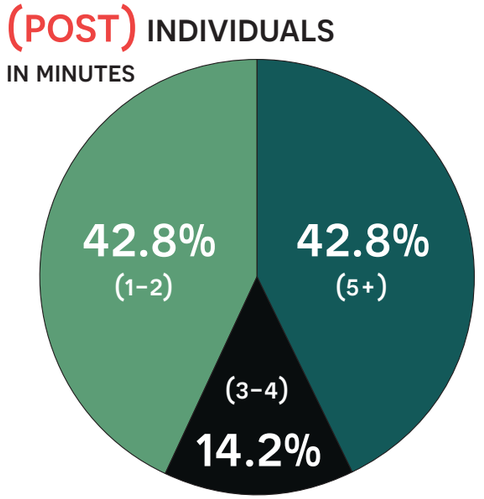
The Holding Power demonstrated that the average time spent, for groups, with the introduction wall was 31.7 seconds and the highest range of overall time spent in the gallery was 5 + minutes with 37.03%. Alternatively, of the single individual observed, the average time with the introduction wall was 10 seconds, while the indicated range of overall time spent in the gallery was 1 - 2 minutes.

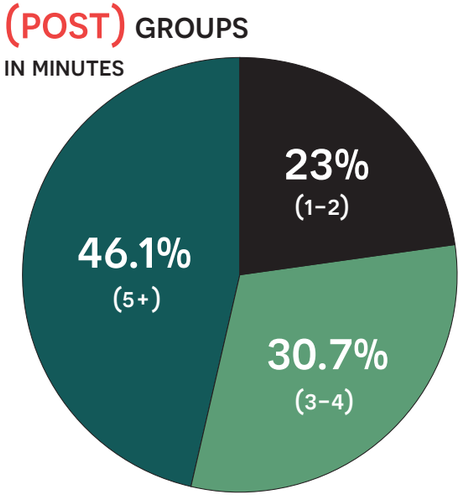
HOLDING POWER

Although the Holding Power of the (POST) data decreased from that of the (PRE) data, 21 seconds (POST) from 31.7 seconds (PRE), the percentage of participants remaining longer in the entire exhibition increased from 37.03% (PRE) to 46.15% (POST). This suggests that the additional multisensory experience potentially encouraged engagement for extended periods of time. However, this measurement is so relative to the individual and how long they tend to interact with exhibitions so this would need further clarification. The decrease in Holding Power of the threshold experience suggests that instead of interacting with the didactic wall panel of the introduction, participants were satisfied by purely engaging with the prototype, but additionally, this would need further clarification.

OVERALL TIME SPENT



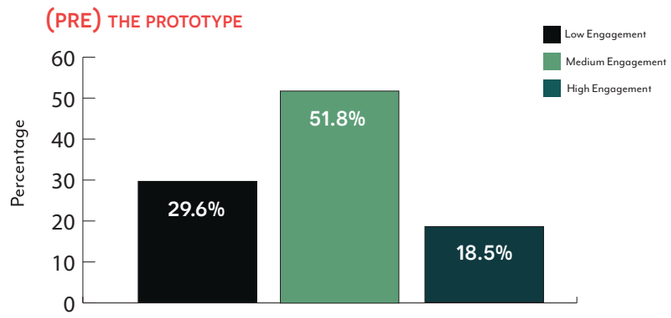




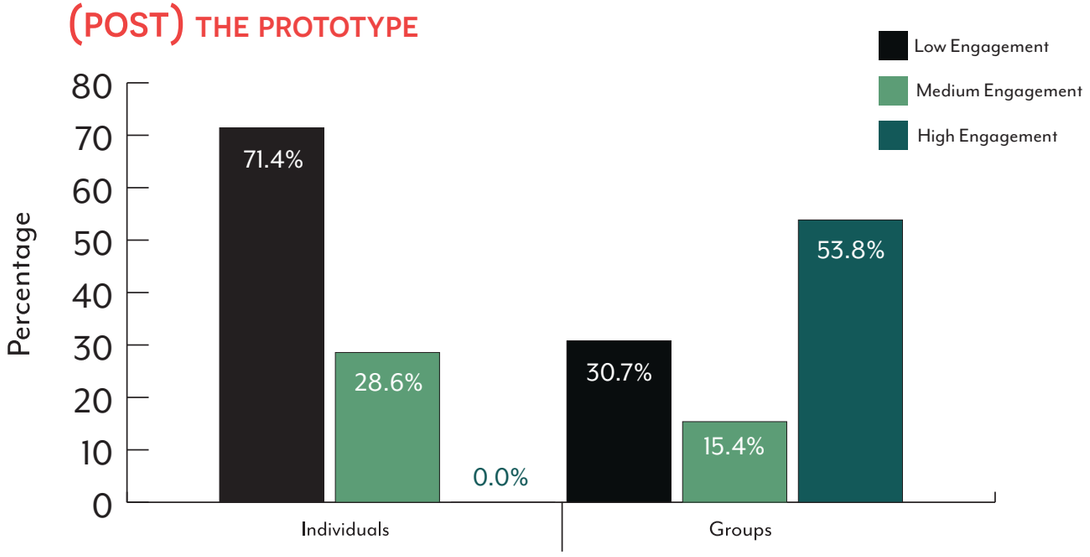
BEHAVIORAL INDICATORS

The clearest data evidence was provided by the Behavioral Indicators. Based on the observations, and the codified point system, almost every range of engagement increased. The most compelling of which was the increase of High Engagement from 18.5% (PRE) to 53.8% (POST). This variable increase suggests that during observations, there was an increase in the frequency of Behavioral Indicators. For groups, dialog, comments/reviews, and photography increased, and even in the case of individuals, returning to the experience happened more frequently, as well as photography. This increased level of engagement was indicated through the point system and was reflected in the overall total points per participant.

In conducting this study, the results show that the design intervention did indeed increase engagement levels. These levels, or ranges, were constructed to represent engagement as understood by this experiment.



BEHAVORIAL INDICATORS	POINTS
No Interaction	0
Reading	1
Photography	1
Dialog	1
Physical Interaction	1
Comments/Review	1
Returning to Experience	1



SYNTHESIS

The threshold experience is the pivotal opportunity for art museums to do more for the visitor. The possibilities for connection, relevance, and engagement with an audience are endless, however through intentional design choices, these possibilities can achieve a closer reality. These possibilities can achieve an embodied experience. This project confirmed that an embodied experience is hard to create. However, it also concluded that even the smallest addition to an introduction experience increases engagement, and thus increases the opportunity for an embodied experience. Based on the engagement levels that we created in the data analysis, the multisensory design approach to the introduction wall increased engagement with both the prototype and the didactic panel. This suggests that better integration of these elements would construct a more embodied threshold experience within the exhibition.

INTEGRATION OF THE DESIGN INTERVENTION

During the conception of the prototype, several spatial constraints were apparent. Based on the visitor flow observations taken prior to the installation of the prototype, participants were largely utilizing the south doorway as the exit. The north doorway was considered to be a more effective testing site for the threshold experience. This included moving the introduction didactic panel to the more frequently used entrance. Due to these alterations,, the artist's intentions, and the museum's obligations, this threshold experience would have interfered with the other exhibition occurring in the DuPont II Gallery. Based on these factors, the prototype was installed in the center of the room, thereby increasing the threshold experience to include it.

The observations concluded that this increase in space between the introduction didactic panel and the prototype diminished the connection between the two elements. Although a result of this particular project, the next iteration would encourage closer proximity between the multisensory prototype and the wall label in order to better understand the possibilities of integration within the threshold experience.

Although the introduction didactic panel was moved to the more frequently accessed entrance, the text was not altered after the installation of the prototype. Therefore there was no additional explanation for the prototype or its function within the experience. Because of this, the design intervention was not clear to participants as a multisensory tool to be used. Without the use of additional text to explain its purpose, the prototype became a singular entity within the exhibition, rather than an integrated element of the threshold experience. Based on this project, the next iteration would not only suggest closer proximity between the introduction didactic panel and the multisensory design intervention, but would encourage better integration between the two elements.

The task of this project, and the ultimate prototype, sought an increase in engagement, but ultimately it became a first step into understanding the process of integration within the threshold experience. By properly integrating the designed elements of a threshold experience, the cohesive whole becomes a more activated space. This activation is based in a well-intentioned and layered design approach that places priority on the numerous entry points for the visitor, rather than a solely text-based approach.

By way of considering alternatives to the text-based introduction approach, the process of incorporation and layering became more illuminated. Wall text and didactic panels are a standard within the museum, and reading as a modality is still a worthwhile endeavor. However, the result of simply incorporating an additional element to the experience was ultimately more attractive to participants. This indicates that by providing thoughtful multisensory elements, visitors would engage more frequently with the threshold experience in general.

Prototype in *Appearances* (2021)

INTERPRETATIVE CONNECTORS AS MISSING LINK

The premise of the interpretative connectors provided the foundation for the basis of this multilayered design approach. The interpretative connectors acted as a toolkit that teased apart the intention behind the constructed design. The basis of the interpretative connectors is rooted in the formal analysis process used by curators, educators, and docents alike. It is taught and understood by many internal staff at art museums as a way to communicate critical factors and important takeaways when viewing and interpreting art. By utilizing this trained analysis technique, the interpretative connectors becomes an easily approachable and accessible tool to implement within the exhibition development and design process.

The interpretative connectors have the ability to expand and express the curatorial narrative in a more effective and accessible manner, while being rooted in the design process. The well-informed expertise of the curator ultimately informs the design, constructing a direct path between the information conveyed and access for audience interpretation.

Intended purpose of prototype

The process of using the interpretative connectors is simple and effective. For this project, the consideration and identification of the interpretative connectors allowed more cohesive dialogue between the author and Peters, who conceived the exhibition. With the help of the interpretative connectors, the construction of the prototype was grounded in the conceptions that Peters had for the exhibition. By doing so, Peters felt that the prototype was a natural addition to the exhibition and ultimately further contextualized the artwork; a unique contribution to the exhibition as a whole.

Although the interpretative connectors helped create our prototype for the project, it was used by the audience differently than intended. The prototype was a tactile element that visitors could interact with, however most of the observations confirmed that visitors were not touching the prototype. There are some suggestions for this behavior. At the time this paper was written, the world was consumed by the COVID-19 global pandemic, so for sanitation purposes, visitors would have been naturally adverse to interacting with the prototype.

Reality of prototype

Even though this physical interaction was not occuring, dialog and conversation suggested that the prototype was a successful contextual addition to the exhibition. Visitors seemed to understand its purpose, although not within the objective that was initially intended. Instead of it being a multisensory interactive, visitors understood it to be an art installation. This also suggests their natural inclination to not interact with the prototype physically.

It is inherently understood that as visitors to an art museum, there is a “no touch” policy with artworks. This very natural inclination by participants explains their aversion to physically interacting with the prototype. The observations and data collected by this project confirm that art museums have a long way to go in supporting a multisensory approach with visitors.

There are several suggestions as to how this could be achieved with the next iteration of this project. The prototype was installed with no additional text linking it to the didactic introduction panel. Although this project proposed multimodalities other than that of reading, additional text would have constructed a clearer link between the two elements, and ultimately a stronger integration within the threshold experience. Whether the connection took place on the actual didactic introduction panel or on a reference panel next to the prototype itself, the language could have initiated interaction and provoked conversation about the exhibition.

Regardless of participants not physically interacting with the prototype, the main premise of the interpretative connectors was ultimately successful. The ideas behind “Content” and “Perception” as the chosen interpretative connectors were valid and clear to the visitors of the exhibition. There was such a clear connection visually between the prototype and the presented artwork that visitors were still able to understand its placement as integrated within the exhibition. Finger points and dialog confirmed visitor’s acknowledgement of the prototype as an embodiment of the “Peters character”, and in doing so, confirmed that the foundational information provided by the connectors was revealed.

NAVIGATING NUMEROUS INTENTIONS

The conception, production, and implementation of the prototype required collaboration between the artist, the author, and the museum. Consideration, compassion, and communication were integral to this process. While working with the artist Lauren E. Peters, the prototype needed to reflect both the intervention's goals and objectives, while maintaining the intentions of the exhibition. This required compromise and discussion that involved additional obligations to that of the artist and the institution, but ultimately fulfilled both the artistic vision, and the objectives of the final designed intervention.

Although the resulting prototype was successful in many aspects, several factors would have been potentially altered under different circumstances. This is critical when considering institutional processes and practices. In the context of this project, Peters proved to be amenable and engaged in the ideas for the prototype, and The Delaware Contemporary was open and willing to amend their space according to the author's ideas. However, the success of this project required not only both the artist and the institution's cooperation, but ultimately, their approval. In order to implement the concepts this project examined, collaboration is wholly necessary.

Based on the timeline of the project, and its results, it is suggested that early discussions help establish collaboration that further constructs the foundation for this process. From an internal perspective, the art institution has to prioritize more embodied experiences in their gallery spaces. To facilitate a multisensory design approach, it is essential for art institutions to implement these processes early on in order to effectively collaborate with all stakeholders of the exhibition. This also enables the art institution to creatively conceptualize a cost effective solution that supports the concepts of the exhibition, while creating engaging interpretation strategies through design.

This project confirmed that additional multisensory elements produce increased levels of engagement. While the multisensory approach is nothing new within the museum field, the art museum continues to struggle with how to better integrate multisensory elements within their exhibition without diminishing the impact and value of their artists, ideas, and most importantly the artworks themselves. The results of this project was the first step in testing the interpretative connectors and their possibilities within the exhibition development and design process. However, it is just one contribution in better understanding how the art museum can do more for its visitors.

CONCLUSIONS

The concept for this project approached the idea of multisensory elements within art museums with the care and understanding of how art museums function internally. The project attempted to utilize the traditional art-viewing experience, while revealing its inner workings through design. By acknowledging standard practice within art museums and understanding the unique art-viewing experience, the project pinpointed the threshold experience as the most flexible and pivotal space of the art exhibition.

The impact of the interstitial space of the threshold experience transports the visitor into the exhibition both physically and mentally, effectively inviting the visitor in. Research and interviews for this project confirmed that art museums infrequently utilize this space as anything other than an introduction wall that is generally text-based. By leveraging this space, the art museum has the opportunity to connect with visitors quickly and effectively, allowing for a more accessible experience and empowering the visitor to be more engaged.

With this is mind, the objectives of the project sought to ultimately empower the art museum through design. Although much evidence backs multisensory design approaches as effective interpretative tools within the museum space, this project further validates those statements. More specifically, the project examined the successful use of multisensory design approaches within art museums. This distinction both reinforces multisensory practices, while contributing to ongoing conversations on making art more accessible within museum spaces. The resulting evidence of the project, and subsequent tool of the interpretative connectors, allows for art museums to facilitate an internal process that can better inform an effective design approach.

In better understanding how art museums can become more accessible, the project defined a specific tool to practice and a space in which to do so. The interpretative connectors, the tool, are easy to implement, while remaining versatile enough to broadly define the distinctive elements of an exhibition. The threshold experience, the space, offers an immediate and effective arena to support visitor interpretation, while maintaining the unique and personal art-viewing experience that occurs in the core of the art exhibition.

By implementing both of these concepts into the exhibition development and design processes, the art museum can easily achieve more design into their exhibitions, and ultimately more visitor engagement. More importantly, to do so, the art museum can utilize their current standardized practice; the curatorial narrative.

The process of supporting and using the curatorial narrative to inform the exhibition, programming, and events remains constant. However, by utilizing the curatorial narrative to additionally inform the interpretative connectors, which then illuminates the design, the “hierarchy of expertise” remains a powerful tool. This updated process leans into the curatorial knowledge and expertise, while acknowledging its limitations, and in doing so, provides supplementary interpretative tools. The premise of this project relied on the curatorial narrative, and subsequently, the formal training that supports those narratives such as formal analysis. By leveraging the standard practice of the curator, and the museum, this project revealed the opportunities between curatorial practice and exhibition design.

Art curators traditionally complete research-based training, and although many have installation experience in regards to the artwork, it is far less frequent that they have formal exhibition design training. Exhibition design encourages visitor experience above all else, and although curators are closely considering their audiences, they are largely unfamiliar with the techniques and tools that enable designers to facilitate effective visitor experience. The goal of this project was to create an easily implemented tool that will construct those bridges between the curator and the audience through design. In doing so, the tool empowers not only the audience as a participant, but the curator as the creator.

Many curators of art museums cherish the traditional art-viewing experience, and rightly so. It is entirely subjective and personal. This project did not attempt to alter this unique and personal experience, but merely improve upon the effectiveness of this experience. The interpretative connectors, as a tool, informs the art-viewing experience, while maintaining its unique aspects. By enabling an individual the opportunity to access artwork through a trained eye, the artwork has the potential to become more memorable and engaging.

This project was approached from a variety of perspectives in the hopes that the result would be an easy application that would enhance art museum exhibitions. The standardized practices of art museums do not naturally lend themselves to exhibition design, but this project attempted to further contribute to the ongoing conversation of how it can.

As the curator of a contemporary art museum, my formal training as an exhibition designer has informed my goals to empower other curators to creatively conceptualize the visitor experience. This project reflects my personal and professional goals to make art more accessible to more people. I would like to continue to make art museums more inviting and welcoming places through design, while encouraging my fellow art curators to do the same. The results of this project confirmed the benefits of integrating multisensory design into the art exhibition, and thereby confirming its critical importance.

This project allowed me to test out my ideas within a real-life application, and in doing so informed my priorities as a professional. It represents the merging of my professional practice as an art curator with my developing skills as an exhibition designer. My research, interviews, and prototyping allowed me to expand my thinking to become a more informed curator, exhibition designer, and museum professional in the hopes of further contributing to the conversations in support of a more engaging visitor experience for more individuals.

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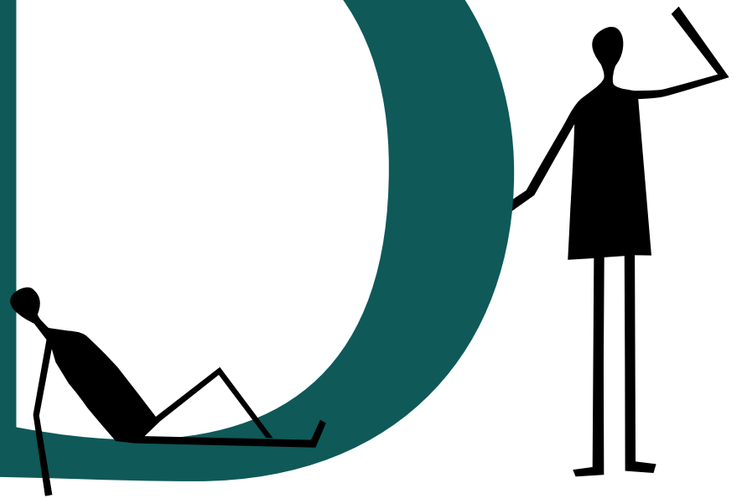

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APPENDIX

A. OBSERVATION CHARTS

A1. (PRE) THE PROTOTYPE

	Individual/ Group?	Attention Power (Y/N)	Notes	Holding Power	Time	Notes	Overall Time Spent	
1/17/21	Group (2)	N				Couple skimmed through show	1:45	
	Group (2)	Y		Y	20 sec	Woman skimmed, man read for longer	2:18	
	Group (2)	Y		Y	10 sec	Both read after walking through show	1:50	
	Indivdual	Y		Y	10 sec	Taking photos, skimmed through	2:50	
	Group (2)	N				Couple skimmed through show	2:32	
	Group (2)	Y	Initially walked by, but went back because they had questions	Y	20 sec	Answered question	3:20	
	Group (2)	Y	Walked across room to info panel	Y	1 min 11 sec	Made conversation and commented on information that was located on panel	5 + min	
1/17/21 Total:	**13**							**Observation Notes:** Many viewers enter from opposite end so do not encounter the wall as part of threshold experience. (Move with redesign)
1/24/21	Group (2)	Y	Initially walked in, but then after viewing a few, walked over to intro panel	Y	17 sec	explained information on panel to accompanying child (8+)	3:16	
	Group (2)	Y	visited after threshold	Y	1 min 9 sec	lots of conversation about exhibition	5 + min	
	Group (2)	N					5 + min	
	Group (2)	Y	paused at vinyl, then walked over to intro panel	Y	45 sec	separate viewings, man walked over to woman to discuss and explain information on wall	5 + min	
	Group (2)	Y		Y	35 sec	some conversation	5 + min	
	Group (3)	Y	went to wall to find out more; confused about content	Y	23		3:36	
	Group (2)	Y	read while walking through	Y	7	woman explained to man the show	3:03	
1/24/21 Total:	**15**							**Observation Notes:** Very similar behavior

A. OBSERVATION CHARTS

A2. (POST) THE PROTOTYPE

	Individual/ Group?	Attention Power (Y/N)	Notes	Holding Power	Time	Notes	Overall Time Spent	
2/14/21	Individual	N					3:30	
	Individual	Y	Yes to introduction wall, no to experience	Y	20 sec		5+ min	
	Group (2)	Y	Yes to introduction wall, no to experience	Y	28 sec		5+ min	
	Group (2)	Y	No to introduction wall, yes to experience	Y	5 sec.	Started looking at mrrors, then realized connection between the design and mirrors	5+ min	
	Group (3)	Y	No to introduction wall, yes to experience	Y	7 sec	had child, lifted up to interact with the experience	1:45	
2/14/21 Total	**9**							**Observations:** Not a lot of tactile interaction, participants seem to think the design is a art piece itself so there isn't as much touching. However, there is still interaction with the piece and the idea behind its functionality is clear. (user intent is working)
2/21/21 Total	**0**							
2/25/21	Individual	Y	Yes to introduction wall, yes to experience	Y	11 sec	Wasn't initially interested, but then realized connection	5+ min	
	Group (2)	Y	Yes to wall, No to experience	Y	53 sec		4:06	
	Individual	Y	No to wall, Y to experience	Y	10 sec	walked through fairly early on, but not as initial experience	5+ min	
2/25/21 Total	**4**							

A. OBSERVATION CHARTS

A2. (POST) THE PROTOTYPE

3/5/21	Individual	Y	No to wall, Y to experience	Y	8 sec.		1:40	
	Individual	N	No to wall, N to experience				2:32	
	Group (2)	Y	Y to wall, Y to expereince	Y	10 sec.	Visited experience first, then went back to wall. Conversation between suggests that they made the connection between the experience and intro	3:08	
	Individual	Y	Y to wall, Y to experience	Y	2 sec.	Initially went to experience, then went back to wall	2:48	
	Group (2)	Y	N to wall, Y to experience	Y	25 sec.	conversation and photos were taken; overheard the couple saying that the design added texture to the exhibition; really interacted with it	5+ min	
3/5/21 Total	**7**							**Observations:** Continued lack of tactile interaction. Participants were drawn to the interactive piece very quickly when they entered into the gallery.

B. DATA ANALYSIS CHARTS

B1. (PRE) THE PROTOTYPE

	Individual/Group	Attention Power (Y/N)	Notes	Holding Power	Time (SEC.)	Notes	Overall Time Spent
1/17/21	Group (2)	N				Couple skimmed through show	1:45
	Group (2)	Y		Y	20	Woman skimmed, man read for longer	2:18
	Group (2)	Y		Y	10	Both read after walking through show	1:50
	Indivdual	Y		Y	10	Taking photos, skimmed through	2:50
	Group (2)	N				Couple skimmed through show	2:32
	Group (2)	Y	Initially walked by, but went back because they had questions	Y	20	Answered question	3:20
	Group (2)	Y	Walked across room to info panel	Y	71	Made conversation and commented on information that was located on panel	5 + min
1/17/21 Total:	**13**						
1/24/21	Group (2)	Y	Initially walked in, but then after viewing a few, walked over to intro panel	Y	17	explained information on panel to accompanying child (8+)	3:16
	Group (2)	Y	visited after threshold	Y	69	lots of conversation about exhibition	5 + min
	Group (2)	N					5 + min
	Group (2)	Y	paused at vinyl, then walked over to intro panel	Y	45	separate viewings, man walked over to woman to discuss and explain information on wall	5 + min
	Group (2)	Y		Y	35	some conversation	5 + min
	Group (3)	Y	went to wall to find out more; confused about content	Y	23		3:36
	Group (2)	Y	read while walking through	Y	7	woman explained to man the show	3:03
1/24/21 Total:	**15**						

Data Analysis								
	Individuals (Total: 1)	Yes: 100 %		Individuals	10	Individuals:	(1 - 2 MIN)	1/1 (100%)
		No: 0%					(3 - 4 MIN)	
	Groups (Total: 27)	Yes: 21/27 (77.8%)		Groups	31.7		(5+ MIN)	
		No: 6/27 (22%)				Groups:	(1 - 2 MIN)	8/27 (29.62%)
							(3 - 4 MIN)	9/27 (33.33%)
							(5+ MIN)	10/27 (37.03%)

No Interaction - 0 Points	Reading - 1 Point	Photography - 1 Point	Dialog - 1 Point	Physical Interaction - 1 Point	Comments/Review - 1 Point	Returning to Experience - 1 Point	Total Points:
0							0
	1						1
	1					1	2
	1	1					2
0							0
	1		1			1	3
	1		1		1	1	4
	1		1			1	3
	1		1			1	3
0							0
	1		1			1	3
	1		1				2
	1		1		1	1	4
	1		1				2

Total Percentages: Individuals (1)	
Low Engagement (0 - 1 points)	
Medium Engagement (2 - 3 points)	1/1 (100%)
High Engagement (4 - 5 points	
Total Percentages: Groups (27)	
Low Engagement (0 - 1 points)	8/27 (29.62%)
Medium Engagement (2 - 3 points)	14/27 (51.85%)
High Engagement (4 - 5 points	5/27 (18.51%)

B. DATA ANALYSIS CHARTS

B2. (POST) THE PROTOTYPE

	Individual/Group	Attention Power (Y/N)	Notes	Holding Power	Time (SEC.)	Notes	Overall Time Spent
2/14/21	Individual	N					3:30
	Individual	Y	Yes to introduction wall, no to prototype	Y	20		5+ min
	Group (2)	Y	Yes to introduction wall, no to prototype	Y	28		5+ min
	Group (2)	Y	No to introduction wall, yes to prototype	Y	5	Started looking at mrrors, then realized connection between the design and mirrors	5+ min
	Group (3)	Y	No to introduction wall, yes to prototype	Y	7	had child, lifted up to interact with the experience	1:45
2/14/21 Total	**9**						
2/21/21 Total	**0**						
2/25/21	Individual	Y	Yes to introduction wall, yes to experience	Y	11	Wasn't initially interested, but then realized connection	5+ min
	Group (2)	Y	Yes to wall, No to experience	Y	53		4:06
	Individual	Y	No to wall, Y to experience	Y	10	walked through fairly early on, but not as initial experience	5+ min
2/25/21 Total	**4**						
3/5/21	Individual	Y	No to wall, Y to experience	Y	8		1:40
	Individual	N	No to wall, N to experience				2:32
	Group (2)	Y	Y to wall, Y to expereince	Y	10	Visited experience first, then went back to wall. Conversation between suggests that they made the connection between the experience and intro	3:08
	Individual	Y	Y to wall, Y to experience	Y	2	Initially went to experience, then went back to wall	2:48
	Group (2)	Y	N to wall, Y to experience	Y	25	conversation and photos were taken; overheard the couple saying that the design added texture to the exhibition; really interacted with it	5+ min
3/5/21 Total	**7**						

Observable Behaviors (Levels of Engagement)	No Interaction - 0 Points	Reading - 1 Point	Photography - 1 Point	Dialog - 1 Point	Physical Interaction - 1 Point	Comments/Review - 1 Point	Returning to Experience - 1 Point	Total Points:
Individual	0							0
Individual		1						1
Group (2)		1						1
Group (2)				1	1		1	3
Group (3)			1	1	1	1		4
Individual		1			1		1	3
Group (2)		1						1
Individual					1			1
Individual					1			1
Individual	0							0
Group (2)		1		1	1	1	1	5
Individual		1			1		1	3
Group (2)			1	1	1	1		4

Medium Engagement (2 - 3 points)	2/7 (28.57%)
High Engagement (4 - 5 points	
Total Percentages: Groups (13)	
Low Engagement (0 - 1 points)	4/13 (30.76%)
Medium Engagement (2 - 3 points)	2/13 (15.38%)
High Engagement (4 - 5 points	7/13 (53.84%)

B. DATA ANALYSIS CHARTS

B2. (POST) THE PROTOTYPE

Data Analysis								
	Individuals (Total: 7)	1/7 (14.28%)		Individuals	10.2	Individuals:	(1 - 2 MIN)	3/7 (42.85%)
							(3 - 4 MIN)	1/7 (14.28%)
Yes to Intro Wall, No to Prototype	Groups (Total: 13)	4/13 (30.76%)		Groups	21.33333333		(5+ MIN)	3/7 (42.85%)
						Groups:	(1 - 2 MIN)	3/13 (23%)
	Individuals (Total: 7)	2/7 (28.57%)					(3 - 4 MIN)	4/13 (30.7%)
							(5+ MIN)	6/13 (46.15%
Yes to Intro Wall, Yes to Prototype	Groups (Total: 13)	2/13 (15.38%)						
	Individuals (Total: 7)	2/7 (28.57%)						
No to Intro Wall, Yes to Prototype	Groups (Total: 13)	7/13 (53.84%)						
	Individuals (Total: 7)	2/7 (28.57%)						
No to Intro Wall, No to Prototype	Groups (Total: 13)	0/13 (0%)						

C. IMAGE CREDITS

Title Cover	Mick Haupt, Courtesy of Unsplash (2020)
Page 24	Margaret Winslow, Courtesy of Delaware Art Museum
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Page 32	Amanda Cacchia at Sweet Gongs Vibrating, Courtesy of San Diego Art Institute
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