INFORMATION, DESIGN, AND TECHNOLOGY:
HOW THEY WORK TOGETHER TO INFORM A MUSEUM VISITOR

A Thesis
Presented to
The Graduate Faculty of The University of Akron

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Erica Lea Zajaczkowski
August, 2014
INFORMATION, DESIGN, AND TECHNOLOGY:
HOW THEY WORK TOGETHER TO INFORM A MUSEUM VISITOR

Erica Lea Zajaczkowski

Thesis

Approved: 

Advisor Mr. Neil Sapienza

Accepted: 

School Director Mr. Neil Sapienza

Committee Member Mr. Durand L Pope

Dean of the College Dr. Chand Midha

Committee Member Dr. Gary Holliday

Dean of the Graduate School Dr. George R. Newkome

Date
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CHAPTER I

INTRODUCTION: WHY CONTENT SELECTION AND VISUAL PRESENTATION ARE IMPORTANT

Informative content and visual presentation are critical when providing a meaningful museum experience for both the casual and sophisticated visitor. For an effective learning experience to take place, knowledge must be turned into information while working in tandem with successful visual communication, using the principles of graphic and exhibition design. Although very few people are experts in both the educational content selection process and the design application process needed to make information delivery successful and efficient, this study could provide a museum director, education director, curator, or exhibition designer with the insight needed to put together a museum exhibition that is interesting, engaging, and intellectually stimulating. This study could also be an informative resource for those interested in new educational technology developments used to aid a museum visitor.

A museum by definition is a permanent, public, and educational institution which cares for collections systematically. Here the word “educational” is key. The function of education in a museum must be held to a specific standard. Information should be accessible, and the delivery of the message should be efficient and effective.
In this introduction, it is important to mention the various types of museums and note their similarities and differences. All museums fall under one or more of the following categories: art, history, and science. Objects collected make up the nature of a museum and therefore characterize what type of museum it is. In the museum world, there is a philosophical difference between art museums and all other institutions.

Burcaw explains this in his book, *Intro to Museum Work*, when he states,

Art is concerned with unique, highly unusual productions of gifted human beings. These productions, called “works of art” are valued for their own sake. If the creation by the artist results in a durable material object, it becomes the concern of the art museum. All other kinds of museums are concerned with typical, common, quality-produced, and natural objects that are valued not in themselves but as examples of the natural world and of human cultures…The threefold classification of museums, then, is art, history, and science. (37)

Figure 1.1 Burcaw’s Museum Classification Diagram (37).
Across the spectrum of museums, shared problems and solutions that affect content presentation, design, and resonance are present. While each museum will have specific challenges to overcome, museums usually have more in common overall than differences. It is obvious that an art museum will have different aesthetic and educational needs than a zoo or a science museum, but there are still fundamental truths about the visual communication of information that can be applied to all learning institutions that fall under the category of museum (Serrell, *Exhibit Labels: An Interpretative Approach* xiii). No matter the size of institution, all those involved in the exhibition design process should be concerned with how the content and message are presented and the overall effectiveness of the exhibition. In their book, *Mastering a Museum Plan*, Houtgraaf and Vitali list the following six essential components needed create a successful exhibit:

1. the knowledge and information that the museum wishes to transmit, referred to as **content**;
2. the translation of the content into two- and three-dimensional **designs**;
3. the exhibit development **team**;
4. the **stakeholders**;
5. the **timeline**;
6. the **budget** needed to accomplish the project. (35)

Understanding and keeping these components as the backbone of an exhibition plan will ensure a successful outcome.

Chapter II will ask the question, “Why do people visit museums?” The answer to this question will lend itself to the development of an exhibition strategy, and how to
choose content based on multiple levels of intellect. Much information is needed to predict why a person visits a museum. Only after understanding why people visit, can a successful concept for an exhibition be generated, specific to the objects and resources unique to a museum. This chapter will also discuss different learning styles and how to use various modalities to convey specific information to each museum visitor. Considering diverse learning styles and demands is significant when developing the textual content and the visual design of an exhibition.

Chapter III will discuss how to convert knowledge about the subject matter and objects in an exhibition into usable bits of information for the visitor to take in and explore. All of the content presented in an exhibition should be based on one argument or idea upon which all subsequent information is built. This chapter will explore how to write labels and other supportive texts that communicate the message of an exhibition effectively.

While successful content development is key, Chapter IV will reveal that the design and structure of physical aspects in an exhibition are just as important as the textual content. Visual communication completely surrounds the museum viewer, therefore establishing a way for that dialogue to be concise, as not to overwhelm a visitor, is vital. Every single label and piece of signage, informational or directional, has a purpose and must make sense to a visitor independently, within the construct of the entire space.

Chapter V will discuss the new technology being used in museums and how it can lead to more interaction and learning. Many museums today make use of technologies that were unavailable even a few years ago. With emerging state-of-the-art “app”
developments, visitor interaction can take place before, during, and after a museum visit. This new technology lends itself to the younger, more technology driven visitors. This chapter investigates the pros and cons of these new technologies, including iPad and smartphone apps, along with the use of unique QR (quick response) codes. Today, new multimedia standards are being set and museums should discern what technologies are appropriate to incorporate into both permanent and temporary exhibitions.

Overall, this paper will discuss textual content in exhibitions, how that content should be visually represented, and new technologies being developed for museums. Research presented in this examination will not discuss how to choose what objects to show in an exhibition, how to layout objects in 3-dimensional space, how to light an exhibit properly or how to physically produce and mount labels since the focus is on content, design, and technology.
CHAPTER II

THE MUSEUM CHALLENGE:
HOW TO EFFECTIVELY REACH YOUR VISITORS

Why do people visit museums? Falk writes about this in his book, *Identity and the Museum Visitor Experience*. He dissects his beliefs about the role of a museum in 21st century society. The true value of a sustainable museum comes from the ability to give people a more broad and insightful understanding of the world around them. In order to enlighten people with a positive museum experience, the museum professional must create an atmosphere that is welcoming and unique, leaving the museum visitor with a sense of wonder (21).

Experts have done many studies in an attempt to determine what motivates a person to visit a museum. While Falk indicates that the finding of these studies identify many motivators that can influence a visit, including a desire for social interaction or the excitement of a new experience, the most frequently mentioned reason why people visit museums appears to be the desire to learn. Falk goes on to note that the public understands that museums are designed to be institutions of "free-choice learning" and not just for entertainment. While Adults may come to learn overtly and know they are doing so, children may be brought by their parents or teachers and inadvertently learn. In either instance, the outcome is that museums exist for learning. This experience is
ultimately the greatest motivator for museum visitation, whether a patron realizes it or does not (56).

Here we begin to focus on creating a viewer experience based on different learning styles and multiple levels of intellect, by considering information depth and hierarchy. Museums provide a free-choice learning environment and therefore the information must be presented in a way that is motivational and stimulating. Visitors should be challenged to call on prior knowledge, as well as actively construct new knowledge based on the information being provided to them (Tallon 19). Museums must create a context and structure using appropriate orientation of objects and information to help the visitor make meaningful learning choices. Sign posting and navigation are also an integral part of this process.

In her book, *Civilizing the Museum*, Elaine Guarian discusses Howard Gardner’s theories on accommodating different learning styles. She advises that museums, like teachers, need to be aware that there are multiple ways that humans learn. Gardner states that there are seven distinct styles of learning: musical, linguistic, logical-mathematical, kinesthetic, interpersonal, intrapersonal and spatial. None of these styles is more important than the others, and all should be considered when maximizing learning potential. In public school education in the United States, significant strides have been made to recognize that all learners do not respond equally well to the traditional reliance on textbooks and lectures, which engage only auditory and linguistic modes of learning.

As well as recognizing styles of learning, educators, including museum designers need also to be aware of the concepts of intrinsic and extrinsic motivators, which deal with “why” on learns. Intrinsic motivation is identified as when learners take their
learning upon themselves to broaden their knowledge base. This self-directed desire for knowledge has been most often identified as occurring in the adult population and has resulted in the creation of a “life-long-learning” movement. Extrinsic motivation is characterized as having a reward system where one’s acquisition of knowledge is motivated by a tangible benefit, such as a passing grade upon completion. In this country children and young adults, those still involved in traditional education, are expected to respond to this form of motivation for many activities whether they are cognitive about it or not. By recognizing these types of motivators museum workers will become more capable in creating effective resources and activities for their patrons. 

Gardner elaborates on these learning styles by explaining the need for multi-sensory or interactive exhibition simulations that can encourage and enhance a patron’s quest for museum knowledge. Ideally, digesting knowledge in a museum should not be an arduous task, but rather one that could almost be taken for granted because the information is being presented in an engaging, inviting, and intellectual manner (156). 

Considering the diversity of audiences is important during the process of creating an exhibition. How can one enhance the visitor’s processing of information? What barriers might arise that would keep someone from having a successful and satisfying learning experience? Heather King’s presentation, Technology in Museums - Augmenting the Learning Experience, given at the King’s College Education Symposium in 2003, outlines the specific reasons for physical, intellectual, and motivational barriers to learning:
Physical

- Interactive exhibits that are physically difficult to operate
- Other objects / people distract visitor’s attention from exhibit

Intellectual

- Visitor is unable to relate to the information or activity
- Objects are not properly interpreted
- Instructions are confusing
- Activities do not allow or encourage interaction between visitors

Motivational

- There is no obvious reward for completing an activity
- The pace is too slow, instruction takes too long
- Exhibits are poorly matched to the interests/abilities of visitors
- The activity makes the visitor look foolish or stupid in front of others
- The activity requires social interaction but visitors feel awkward and inhibited to communicate or participate
- Activities preclude social interaction, e.g. require wearing of headphones, permit only one person at a time (7-8)

If a museum visit feels like a daunting experience, the museum practitioner has failed to accommodate the novice learner whom, in most cases, is truly seeking a better understanding of the ideas the museum is offering. Museums need to make resources readily available that cater to new learners because the majority of museum patrons will not be experts on the subject matter. Gurian states,

If we as creators of exhibitions, think that viewers are inherently smart (though not necessarily well educated or familiar with the subject matter) and that they are entitled to ask questions and receive answers, then we
will address questions the audience has rather than tell them what we think they should know. It is logical, then, that the author will have to consult with the public before writing final copy. This assumption applies the time-consuming task of audience interviews before the final installation is done. (157)

There is no such thing as the “average visitor;” however, there are trends and patterns that can be important to take note of when considering how a person could experience a museum. Serrell has created a list of museum visitor similarities taken from a representative sample. This list is shown below:

- A significant proportion of visitors comes for a social occasion, as a social group. Many of these groups include children.

- Gender ratios (percent males and females) are often not significantly different.

- Teenagers are under-represented in many different types of museums.

- A diverse cross section of visitor types is attracted to the most popular elements in an exhibition. When something "works," it tends to work for many types of people.

- More people read short labels than long labels.

- If visitors cannot understand or personally connect with part of an exhibit, they will skip it.

- Visitors of all ages are attracted to exhibit elements that are more concrete and less abstract.

- There are more groups without children in art museums than in most other types of museums.

- Children are more likely to touch and manipulate interactives before adults.

- Children are less likely to read labels than adults are.
• Groups with children allocate their time differently than groups of adults only, but both groups may spend the same amount of time overall. (Serrell, *Exhibit Labels: An Interpretative Approach* 38)

We know showing objects alone will never be enough to provide information to a visitor. The message that accompanies those objects can be just as important as the objects themselves. The challenge, according to Houtgraaf and Vitali in *Mastering a Museum Plan*: “is to get the museum's message or intentions across, to translate them into a visual and spatial language that will engage the audience and communicate effectively. The consequence of that ‘translation’ depends on upon how well the collective information and resources behind the message have been structured and, in addition, how well certain aspects of the display, particularly its design and presentation, have been considered and carried out” (15).

It often holds true that the simpler the concept, the better the exhibition. As exhibition practitioners, we have knowledge that we must translate into information that can be digested by each museum visitor through printed words (Orna 20). It is important for the audience to be able to understand the overall exhibition concept immediately. They can then learn more information as they continue through the exhibit and hopefully recall what they have learned at a later time (Guarian 154).

The concept of different “modalities” in terms of how people best receive information was mentioned earlier. Beverly Serrell addresses topic in the context of content presentation in exhibitions in her book, *Exhibit Labels*. She writes:

Different modalities provide choices of ways for learners to receive information, which can, therefore, appeal to a broader range of learners. They provide a useful concept for planning formal educational experiences as well as for informal exhibitions. Applied to exhibit elements, available
modalities include written words (labels, brochures), images (photos, movies), icons (symbols), sounds, touchable objects, devices to manipulate (interactive devices), illustrations, and other forms of graphics (charts, maps, diagrams), demonstrations and computers. (65-66)

There are clearly modalities that some museum-goers prefer over others; however, the initial attraction and context of an articulately-designed and properly placed exhibit component can trump a visitor’s preference for a particular modality. An example of this would be: “I don’t commonly read texts in museums, but the way the text was laid out made my eyes jump right to it.” Another example might be: “I often have difficulty using technology, but the simplicity of the iPad interactive exhibit made me enjoy using the technology and I was better able to retain the information than I would have been with standard text.”

The quintessential way to create various modalities is to choose the technology for each component appropriate for the content and communication goals. The exhibition designer should consider all methods of displaying information before choosing one. For example, he or she should not delegate that only photographs be included in an exhibit, before stopping to consider if compelling text, images, video, or the re-creation of an atmosphere is the best way to convey the idea being presented. This is imperative for each of the modalities used in an exhibit to flow along unencumbered.

Realizing that modalities need to be parts of a whole can lead to a feeling of togetherness and interlinking ideas for the exhibition experience and the entire museum visitor population. Believing that museum visitors engage in only one mode of learning style is damaging to the museum and exhibition experience because it greatly limits the capabilities of the visitor to learn and interact with the exhibition. Museums that utilize
even a minimal amount of varying modalities are more likely to cause visitor frustration regarding the accessibility of exhibits, making them less likely to return.

The most literal and often most impactful use of a modality for any age of museum visitor, is displaying “the real thing.” Many museums obtain, restore, conserve, and display actual items, and this is why visitors come to the museum. At times simply showing the authentic artifact adds more to the learning experience than a fancy video or interactive experience. For example, consider the Declaration of Independence. People simply want to say they were in the same room as this historic document. They do not want a fancy 3-D movie about the Constitution (Serrell, Exhibit Labels: An Interpretative Approach 66-67). Of course, this example would not apply to all visitors. Providing tools that give a context and meaning to the object is vital, specifically for those visitors who might not yet know what the Declaration of Independence is or why it is considered important.

Exhibits that are clearly primarily educational must be presented in a way that makes the visitor feel that his or her time is being spent efficiently and effectively. Exhibition planners have a responsibility to create an experience that is logical, and engages the visitor long enough to comprehend each element of the exhibition (Serrell 68-72). The following chapters will suggest how to organize an exhibition, how to write effective labels, and how to design the textual elements of an exhibition in order make the patron’s journey through the exhibit less cumbersome, more enjoyable, and give them the ability to explore the exhibit in a timely manner (73).
CHAPTER III

CONTENT DEVELOPMENT:
WRITING TEXTS AND OTHER SUPPORTIVE MATERIALS

In his book, Museum Texts, Ravilli gives insight into the formulation of words into meaningful texts that can convey a message in a museum exhibition. He writes,

Language always occurs in context, and so must be evaluated in relation to that context: some language is appropriate in some contexts, but not others. Thus, the approach […] aims to see how language is functional (or not) in its context, rather than trying to provide a definitive view on what is 'correct' or acceptable.

Texts may be long or short, ephemeral or carefully preserved, private or public, serious or fanciful. The analysis may focus on tiny building blocks of these texts – a word, a grammatical structure – but the point is to understand how those building blocks contribute to the meaning of the whole. An understanding of the building blocks themselves is a means to an end, not the end itself. A general theme […] will be to consider text across a range of levels, including individual sentences, but also whole texts, and even the way in which the texts and other communicative resources with an exhibition can be seen to work together to create a 'genre' for that exhibition. (11)

Content development is possibly the most difficult part of the exhibition design process and is the area where many museums fall short. The development of a strong narrative structure is the key to conveying information in a clear and effective way; and, above all, carrying out the museum’s mission to educate. For example, if an art museum were to show a great collection of outsider art but did not provide an accessible framework or core idea behind the exhibition, it could look messy or thrown together.
The content development process starts with a core idea. According to Houtgraaf and Vitali, this “core idea may come from any number of sources to reflect the strengths of a museum’s collection, its research activities, and its interests” (39). The core idea is affected by the entire museum, it is influenced by the mission of the museum, and by what content is appropriate for a certain institution to convey.

The team of museum professionals working to develop the narrative structure of an exhibition should resist the temptation to write the actual label copy before completing the development process (Serrell, *Exhibit Labels: An Interpretative Approach* 111). The process of developing the core idea helps to determine what objects should and should not be included in the exhibit. The core idea guides decisions regarding the tone, both visual and audible, and content for labels, captions and other exhibit elements (2).

Spotting an exhibition that does not have an established core idea as its backbone is relatively easy. These exhibitions are often confusing, with too many labels or extra texts that do pertain to the objects being shown. The ideas that are presented do not relate to one another because there is no definitive narrative established. Serrell comments about exhibitions that lack a core idea saying, “They are typically underutilized- the majority of visitors move through them quickly, stopping at only one-third of the elements.” (*Judging Exhibitions: A Framework For Assessing Excellence* 7).

Houtgraaf and Vitali give exceptional insight to the development of a core idea:

In effect, it is the museums’ essence translated into a core concept which then resonates through thematically linked galleries to individual thematic modules within a single space. Within in all these areas there must be a logical and coherent clustering of information units (stories as well as objects). The approach below allows a museum to map the domain of its knowledge and material resources and communicate their essence to the many different audiences that it may attract.
The development of the content for an exhibition or museum-wide installation will start with a core idea. An exhibition’s core idea may come from any number of sources and reflect the strengths of the museum’s collection, its research activities, and its interests. (39)

See Houtgraaf and Vitali’s diagram, Schematic Presentation of the Concept, its Core Themes, and Their Components below.

Figure 3.1 Schematic Presentation of the Concept, its Core Themes, and Their Components (40).
While this diagram may not exactly coincide with the physical layout of the exhibition, it identifies schematically how a curator should conceive of themes presented along with their topics and sub-topics (38-40).

After a core concept is developed, the main storyline for an exhibition can be created. The main storyline is often regarded as a central theme or blueprint for the way things will be displayed throughout an exhibition. This portion of the process can be difficult and time consuming, but it will result in a solid schematic structure—creating a strong core foundation that can be built upon. As the main story line is developed, it can then be divided into more narrow topics (Dean 104).

The main storyline should ideally consist of a narrative document, an exhibition outline, list of titles, sub-titles and other texts, as well as a list of the objects to be shown and any other relevant materials that will be used in an exhibition. These materials might include pertinent support elements such as info-graphics, games, and iPad and smartphone apps (Dean 103). As the main story line is developed, the outline should be revisited several times to make sure it still represents the message of the exhibition and makes sure that message is conveyed with effectiveness and clarity.

The list of collection objects should not be, “generated in a vacuum.” As Dean says in his book *Museum Exhibition: Theory and Practice,* “[the list] is carefully coordinated with the development of the narrative and outline so that all sets of documents then provide a complete picture of the final exhibition resources upon which a designer can draw in formulating the gallery plan and design” (109-110). This list of objects and materials is often larger at the beginning of the process, getting pared down as the focus of the exhibition evolves. Similarly to the way Dean breaks down the
storyline, Houtgraaf and Vitali use the diagram on the next page as a tool for the development of a storyline based on a single thematic module (43).

![Figure 3.2 Template for a Story Line Element for a Single Thematic Module (43).](image)

After the creation of a storyline is complete, the preparation process focuses on the following two distinct elements, creation of supporting texts and the design of the visual elements of the didactic material (Houtgraaf & Vitali 41-43).

Houtgraaf & Vitali use the term “reasoning scheme” to describe a method that can be used to ensure that all parties involved, from the curator to the exhibition designer, understand the concept that is being conveyed and can ensure that it is communicated effectively to everyone who must analyze or use the display. The key objective for outlining a reasoning scheme for any exhibition is to find out if the nuances inside the content can be completely understood. Houtgraaf & Vitali explain how to develop a reasoning scheme here:
A reasoning scheme is best expressed in a hierarchical setup. Each major statement is presented as a separate bullet point. Every underlying reasoning element, or building block, is indented. Every indented element supports the major line under which it is located and can serve as a platform upon which a reasoning step or technical explanation can be built. Reasoning can be expressed in various ways (e.g., fact…due to… caused by…; if… then,… else…; as long as… then,… else…, etc). (44)

The development of support material and exhibition texts is a complex process. The overall message of an exhibition must be explained to a museum visitor using texts varying in length and complexity. Establishing a reasoning scheme will make it possible to identify and convey the necessary information for each section of an exhibition concept. (Houtgraaf & Vitali 43).

Once the overarching argument for each display and its parts is described, the construction of text messages follows. This includes principal messages and secondary messages for each content section. These messages can then be construed as the basis for writing the installation texts and labels (46). If the exhibition team has successfully done its job and followed the guidelines identified earlier, the core idea behind the exhibition will be clear and focused and will come across in all written materials pertaining to the exhibition. Marketing themes, info-graphics, content for the website and all other promotional materials relating to the exhibition can also be considered at this time.

Label communication must be clear, concise, and brief as not to overwhelm a visitor. “The core message should be expressed as directly as possible. It is helpful if the conclusion is presented up front, followed by the reasoning or explanation, preferably in the form of a story. Ideally the title should contain the principal message, in a more or less catchy or memorable one-liner,” says Houtgraaf and Vitali (47). The process of developing appropriate and successful content takes time as it requires that all be
reviewed for consistency of style, content, and grammar by all members of the exhibition team. Implicit in this process is the likelihood that there will be multiple revisions before the final content is approved (Houtgraaf & Vitali 46-48).

The final approved content is then used in the creation of labels. Any information that a visitor will encounter at a museum will fall into one of the two categories, interpretive labels and non-interpretive labels. Interpretative labels tell a story and do not just list facts. Non-interpretive labels, contain basic facts, such as dates, titles, artist names, the medium of the work (Serrell, *Exhibit Labels: An Interpretative Approach* 22-31). See Serrell’s chart below for a suggested guide to the different types of interpretive labels, their purposes, and an ideal length for each type of label.

<table>
<thead>
<tr>
<th>Main Types of Interpretive Labels</th>
<th>Purpose</th>
<th>Number of Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXHIBITION TITLES</td>
<td>to attract attention to inform about the theme to identify</td>
<td>1 – 7</td>
</tr>
<tr>
<td>INTRODUCTORY LABELS</td>
<td>to introduce the big idea to orientate visitors to the space</td>
<td>20 – 300</td>
</tr>
<tr>
<td>GROUP LABELS</td>
<td>to introduce the big idea to orientate visitors to the space</td>
<td>20 – 150</td>
</tr>
<tr>
<td>CAPTION LABELS</td>
<td>to interpret individual objects, models, phenomena</td>
<td>20 – 150</td>
</tr>
</tbody>
</table>

Figure 3.3 Interpretive Labels (Serrell, *Exhibit Labels: An Interpretative Approach* 32).

Logical order for label placement is imperative. As visitors move through the space they will encounter different types of information presented on several types of
labels. If the flow of information is not carefully thought out ahead of time, visitors will become overwhelmed and confused.

Title labels or signs providing the name of the exhibition should be displayed at the front of the exhibition space. These signs should be placed at a height that meets the average eye line, around 59” from the ground. Title signs should also feature large and visible lettering (Dean 111). The title of an exhibition is significant and should bestow adequate information that will allow museum visitors to establish whether or not they wish to explore the exhibition. An exhibition should only have one title and it should be used consistently. The same title should be used in all promotional and informational material (Serrell, Exhibit Labels: An Interpretative Approach 22). The design of a title sign should be taken into careful consideration. The use of appropriate visual elements can be selected to get a visitor’s attention and give the patron insight as to what the exhibition is about and set the mood for the exhibition (Dean 111).

Introductory labels, which are found at the beginning of an exhibition, should establish the logistical approach and tone of the exhibition. Introductory labels could include a basic floor plan and a summary statement will help prepare patrons for the size, parts and motifs of the space. Quick and precise orientation is a critical component for visitors because many visitors will not stop to read a complex and lengthy introduction. If a hallway or entryway is crowded, museum-goers will not want to devote the time necessary to navigate through it. Substantial introductory text with many opinions and ideas all placed into one paragraph can be cumbersome to the average museum visitor (Serrell, Exhibit Labels: An Interpretative Approach 22).
Chat labels or group labels are used to show visitors why certain objects are being exhibited together. They are at times somewhat informal and contain more information than a subtitle or caption. Captions refer to specific objects and are commonly the most read labels in an exhibition. For this reason, it is important that captions work together as a whole, but can also be understood individually. Chat labels are often placed close to a caption label so that visitors can move easily from one to the other and gain a more broad understanding of the context of the objects they are viewing (24-25).

Non-interpretative labels are identification labels. Donor plaques, way-finding, prohibitive signage (to keeps visitors away from certain areas) and credit panels all fall under the category of non-interpretative labels. Identification labels or ID labels give the viewer minimal details including name, date, material, accession number, etc. The format of this type of label can vary from exhibition to exhibition, but consistency throughout a single exhibition is imperative. This consistency should be found in the order of the information presented and within the typefaces, colors and sizes that are used. Donor information is often included on an ID label at the very bottom in small type. Serrell writes in her book *Exhibit Labels: An Interpretative Approach*,

These tag lines are not interpretive and they should not be larger than or mixed in with captions, IDs, or other interpretive labels. Labels that acknowledge funders are best dealt with in their own space, near the end of the exhibition, in a discrete, respectful way. Materials, typefaces, and sizes should be sophisticated but not out of character with the rest of the signage. Expensive bronze donor or funder plaques next to dog-eared, paper interpretive labels indicates that visitors are not being considered first. (30)
The image below shows an example of an identification label from the Minneapolis Institute of Arts.

Figure 3.4 The Anatomy of a Museum Wall Label (Minneapolis Institute of Arts, www).
Credit panels in an exhibition are important because they recognize the people who worked tirelessly to create the exhibition, but they should be understated. Credit needs to be given to those who made the exhibition possible because it is good for morale and it gives the public a chance to see how much work goes into creating a museum exhibition, but it should not overwhelm the other elements of the exhibit.

Way-finding signs are also very important, yet should not interfere with the function or the aesthetics of an exhibition. These signs do not technically fall under the category of non-interpretative labels, but both play a significant role in guiding visitors throughout the exhibition. Visitors can feel anxious about going to places with which they are not familiar, making these signs incredibly important and comforting. Exits, restrooms or food areas should all be clearly marked because when a person feels their basic needs are being met, they are more likely to be concerned with higher intellectual needs. Visitors who feel comfortable and well oriented are more likely to absorb information. (Serrell, *Exhibit Labels: An Interpretative Approach* 31).

In order for texts to be effectively communicated they should be direct and the material should propose questions and answers to the reader thus sparking curiosity. There should not be unfamiliar language or technical jargon. When labels become too wordy they lose informational impact. The content should hold interest and appeal to the thinking process. It can sometimes be helpful to use analogies to compare a familiar idea with a new idea. If interaction is required for a certain part of the exhibition, provide instructions that are direct and easy to understand. While explaining guidelines to writing effective text Dean writes,
A way to capture interest in the textual material is to appeal to the whole thinking process in humans. Since the left brain is the analytical center and the right brain is the imagery processor, appealing to both will be most effective. The right brain is the expert at making a whole picture out of the bits of pieces of the puzzle (pars pro toto). Suggestions and associations are effective at communicating a great deal more information than is actually written. If done correctly and accurately, exploiting this facility of the brain can impart information more clearly and rapidly than the presentation of bare facts. (117)

Acknowledging and utilizing an active tense in text labels is helpful for further engaging museum-goers. Additionally, minimizing sentence length will encourage patrons to read the entire label, as it will appear to be less of an overwhelming task. Visitors who do not easily read English benefit most from an active tense and limited sentence length. Studies have shown that the ideal sentence length should be between 15-25 words. The length of a caption or group label, should be no longer than 150 words and should only contain one idea so it is easier to manage mentally. The Smithsonian recommends keeping the characters contained in a line limited to 55 on average. (Majewski 17).

There are many common mistakes made during the label writing process. The label should avoid sounding like a textbook and should not become boring and wordy. Also, failure to edit label copy can result in grammar and spelling errors. These errors reflect poorly on the validity of the exhibition content and the entire museum and its staff. The design of all text should work in tandem with the information presented as a way to capture attention, however no matter how successful the design, it is the content that will keep the reader’s attention and inform them more on the subject matter (117-118).

A successful museum exhibition should combine many types of labels in a consistent manner, with each label having a clear function. If logical placement is
followed and consistency is exercised, visitors can use these clues to understand the flow
of information and the intent of the information. The core idea of the exhibition should be
conveyed through story-telling and a labeling system that takes into account the interests
and learning styles to reach a diverse group of visitors (Serrell, *Exhibit Labels: An
Interpretive Approach* 35-36).

Many times there is more information the exhibition team would like to convey to
their audience than will fit on labels. Often this content is interesting and pertinent to the
exhibition, but can be too lengthy or esoteric to display directly in the exhibition because
it is not considered essential to the overall storyline. There are several effective mediums
that can be used to add supplemental information without becoming overwhelming
for some visitors (Dean 115). In her book, *Exhibit Labels: An Interpretive Approach*
Serrell writes,

More lengthy exhibit interpretation can be presented in formats other than
labels. Besides inexpensive single-page handouts, newsprint, or brochures
to use in the museum or take home, there can be books or the catalog to
browse through (tables and chairs provided), laminated portable labels to
carry around the gallery and put back, and catalogs for purchase. Videos,
audio tours, computer databases, and demonstrations by staff can provide
other means and modes of presenting information and interpretation. All
of these supplementary forms of interpretation will allow interpretive
labels on walls or in cases to remain brief, as they should be. (33-34)

New technologies such as QR codes and smart phone apps can also be great tools for
distributing further information and will be discussed in Chapter V.

Distributed materials are not only used to supplement an interest in further
learning about the exhibition’s subject matter, but also can provide a physical "souvenir"
that can be taken home and revisited later. While brochures should be well designed, they
are most often meant to be used for intellectual purposes and will emphasize educational
content over images. Dean writes, “This allows such publications to explore in depth
certain facets of the exhibition subject matter, philosophical connections which are
difficult to communicate in the principally visual, imagery-oriented environment of the
gallery can be explored with handouts. This opens up a whole realm of educational
possibilities” (Dean 115).

Exhibitions can also have re-usable handouts that are given to visitors at the
beginning of the exhibition and then should be returned for others to use later. A
numbering system is generally used to correlate the information on the reusable
handout to particular objects. This is another effective way to keep label copy from
becoming too lengthy, and a way to make appropriate labeling cost-effective for
institutions (Dean 116).

As visitors leave an exhibition, they are prone to creating their own meanings.
This is only detrimental if these meanings are contradictory to the exhibition’s purpose.
According to Serrell,

As visitors exit an exhibition, if they can easily, unhesitatingly and
thoroughly answer the question, ‘What was that exhibition about?’, there
is strong evidence for immediate impact-comprehension and personal
significance. If the majority of them seem hesitant ("Uh, ummm...")
uncertain ("I think, maybe, well...") brief and incomplete ("It was about
sharks"), or apologetic ("I really wasn't paying attention", "I just breezed
through"), there is evidence that the big idea was not clear.” (Judging
Exhibitions: A Framework For Assessing Excellence 5-6)

As museum visitors tend to be most interested in an exhibit’s educational aspects, it is
imperative that proper labeling and signage work to ensure that patrons’ intellectual
takeaways are as correct as possible.
CHAPTER IV

VISUAL COMMUNICATION DESIGN:
HOW TO SUCCESSFULLY PRESENT THE MESSAGE

This chapter will discuss the importance of a successful convergence between information and design. It is also crucial to consider design as it relates to exhibition content while taking into consideration other permanent visual communication methods throughout the museum. Visual devices put into place during the design process should help express the intention of the exhibition. The connection between the visual and structural organization of the content should allow visitors to unknowingly pick up on visual clues as they explore the exhibition. The designer has the power to make a viewer feel either empowered or isolated (Gurian 150). Ravelli speaks further about these devices in his book, Museum Texts, saying,

For the more conventional written texts, it is typically the case that aspects of design are used to reinforce the linguistic structure of the text: thus, as we have seen, headings are in the largest font, and so on. Special highlighting – a bold font, a change of font or colour, and so on – may be used to signal key points. These devices enable visitors to scan for the most important information without appearing to ‘stop’ and read the texts. Typically that which is highlighted coincides with important organizational points at the micro-level of the text. (35)

Once the storyline has been developed, the exhibition designer can use it as a blueprint to lay a visual foundation for the ideas that are being presented. It takes teamwork from
everyone—the designer, the curator and other team members—to choose the most efficient visual methods to educate visitors. The most important design elements to consider when creating exhibition labels are typeface, type size, color, line length, and line and letter spacing.

Perfectly crafted text is compromised without successful visual communication design. These elements are equally important. Dean underscores this fact when he writes, “It is essential that textual materials be well designed and implemented with just as much attention applied to detail and quality as that afforded to other design elements” (131). A designer must remember that each exhibition text is part of an overall environment and should be careful that the texts don’t compete with one another. The information presented in this chapter will help to provide guidelines needed to successfully convey the message of the exhibition to the viewer.

Typography is possibly the most important element used to convey a message. Maximum readability is the goal. Texts must be a size that is easily visible to the reader. If the type is too small, visitors will not stop to read it. It is important to keep in mind a reader’s position when they are reading labels. While most viewers are standing, mounting wall labels at about 54 inches above the ground provides a comfortable reading height for those sitting as well (Majewski 26). The Smithsonian Accessibility Program has created a comprehensive handbook which explains the best practices for Accessible Exhibition Design. In this handbook Janice Majewski writes:

Text containing too many characters on a line is difficult to read. Exhibit text should have a maximum of 55 characters (average) per line. Narrower columns, with 45-50 characters per line, are preferable. […] People with reading difficulties as well as those with low vision tire easily from the effort of seeing and reading a great number of printed words. An overview sentence
or two--set in clear, large print--allows these visitors to gather key information without having to read all of the text. (17)

The label below is an example of using hierarchy to show information. The first paragraph is bolded and attracts attention.

### Visual Journal: Harlem and D.C. in the Thirties and Forties

Photographers were honored members of the African American community during the 1930s and 1940s. They recorded the lives of black people, their cultures, and the changes African Americans experienced in the United States at that time. This exhibition shows you the work of seven photographers who documented people and events in Washington, D.C., New York City’s Harlem, and rural Virginia.

Photographers are visual storytellers. They illustrate our place in society, document our dreams, and preserve powerful memories. In the 1930s and 1940s, in cities all over America, the black public was enthusiastic about having their image preserved at the local studio. They enshrined their local photographers who encouraged by the numerous...

Figure 4.1 Writing a Short Overview Paragraph (Majewski 17).

An exhibit label should contain textural material that attracts attention without being over-designed. There are different ways to achieve this, such as making the first letter of the sentence larger (what is known as a drop cap) or using a bold typeface for the first line or paragraph of the label. If the design of the label attracts the reader, then the content will be what keeps him or her reading. Dean writes,

The visual appeal of the text is a matter of design with many good solutions. The informational impact of the text is also of major concern. No matter how attractive the graphic nature of lettering maybe, it is content and meaning that hold interest. The first sentence of a text block should use wording that both
attracts and holds attention. If a reader becomes hooked by a tantalizing initial sentence, he or she is more likely to continue reading the information. Also, if interest is aroused, then assimilation of meaning is enhanced. (117)

A basic understanding of typography includes knowledge of the terms leading, kerning, and tracking. Leading is the horizontal white space between lines of text. Legibility can be affected when leading is too tight or too loose. Leading that is too tight can cause a reader to go over the same line twice, yet leading that is too loose can result in a reader losing their place on a label. While the amount of leading needed varies by font, a novice designer should usually just stick with the default setting on their computer, which is the height of the font plus 20%. If the leading looks too tight on the default setting, it is generally safe to add a point or two without losing readability (Bosler 82-83).

Kerning is the set distance between two letters in a font. Consistent kerning allows for more comfortable reading. Some letters and numbers need to be manually kerned to keep consistent, proportional space: a good example is the number “1”. Often the typed, number “1,” when a part of a longer number such as “178,” will appear farther away from the other numbers. Most design programs allow kerning by placing the cursor in between the letters or numbers that need kerned and using the option key + the right or left arrow keys.

Tracking is the space between all letters in a word or sentence. Tight tracking can cause the brain to not be able to recognize a letter form, while overly loose tracking and make distinguishing the beginning and end of words difficult. Wide and extended fonts often require tighter tracking and narrow or condensed fonts should have looser tracking.

Justification refers to typographic alignment. It can be left, right, centered or full. Full justification forces the text to fill a designated space from right to left. Left justification
is most commonly used and easiest to read however, in certain situations other types of justification can be more appropriate (82-83).

While often thought to mean the same things, readability and legibility are two different concepts. In her book *Mastering Type*, Bosler writes,

*Legibility* and *readability* are two terms used to describe how easily type can be read. These terms however, are quite different from each other. Legibility refers to the design of the words, while readability refers to the way a designer arranged the words. Legibility involves all parts of a character and all the styles within a font family. These elements create the different features that set apart one typeface from another. These qualities also influence the ability of the viewer to discern the letterforms themselves. Communication with wide audiences requires highly legible typefaces. [...] A designer should never make a reader struggle to interpret words.

Readability is ensured by arranging the letters set in the chosen typeface and adjusting their size, style, kerning, tracking and case. Color is also a factor. The audience must be considered when addressing readability. (62)

The context of a label and the environment in which it is viewed will greatly impact the choices made regarding typeface, type size, word, line and letter spacing, distance and color (Serrell, *Exhibit Labels: An Interpretative Approach* 194).

In the common argument of serif versus san serif, the correct choice depends on the situation. It should be the designer’s goal to create a label that allows the readers eye to easily glide across a line of type and be able to find the next line naturally. Serrell explains further,

Vertical, compressed, or taller-than-wide typefaces, especially some sans serif fonts, can decrease legibility by overemphasizing verticality. Tight spacing between letters and heavy serif faces with small x-height [...] decrease legibility by making the words clump together. Too tall & tight Very small x-height Some serif faces are associated with more classical, sophisticated or traditional looks. Sans serif faces are sometimes called "clean" or "modern." Trends or fads in typefaces, like fashions, can come and go. Helvetica, a face designed in 1957 by Max Miedinger, became popular as a legible body-copy style and was practically an industry and government standard for highways and airport signage. Because of its extensive use, the
A plea "anything but Helvetica" was the slogan in some graphic design circles by the 1970s. (Exhibit Labels: An Interpretative Approach 195).

The image below explains font proportions and gives examples for text that is accessible and text that is not accessible.

![Font Proportions](image)

**Figure 4.2 Font Proportions (Majewski 20).**
When creating labels that are legible for all visitors, there are several rules to keep in mind. Do not use all capital letters in the body copy of a label. The use of all capital letters should be limited to headers and titles. Using script fonts or over-using italics can also hinder the readability of a label. Italics are less discernible in some faces than others and should not be used for body copy of more than three lines. Avoid distorting type or printing text over an image or textured background, and provide high contrast between the text and background of your labels. Left justification should be used to format all labels (Majewski 24). Ragged-right margins (left justification) will not need as much polishing to make word spacing look even and to avoid "rivers" of space running vertically through bodies of type. Ragged-left margins (right justification) make it difficult for the eye to find its way to the beginning of the next line. Hyphenating words at the end of a line can cause a reader to lose the rhythm. It is best to use a soft return to move the entire hyphenated word to the next line, especially for line lengths that exceed more than 50 to 60 characters and larger type sizes.

Labels located higher than six or seven feet off the ground are probably not going to be seen by visitors. Labels placed directly next to what they are explaining will be examined more than labels keyed by a number on the text and placed farther away. Labels adjacent to dimensional elements in exhibits get read more than flat label panels on the wall, without other objects nearby. These include introductory and orientation material. Grouping material into short paragraphs, 25 to 75 words long, increases the chance of visitors reading the information (Serrell, Exhibit Labels: An Interpretative Approach 234-235).

The more labels in an exhibition, the greater concern there is about making labels consistent and easy to read. In exhibitions with a few labels, legibility issues can be of less concern, although the exhibition designer should avoid creating a situation in which the
majority of patrons feel like reading is a chore. While the guidelines above are helpful, they are no replacement for working with an experienced graphic designer (Serrell, *Exhibit Labels: An Interpretative Approach* 199). There is no specific standard on the type size to be used in labels because the exhibition space will dictate how near or far people will stand when reading a label. The size should vary based on this variable and be kept consistent throughout. The labels shown below are examples of identification and chat labels. The design is simple and straight forward, using Optima Bold and Regular in various sizes.

**ANASAZI**

Descendants of the Anasazi, or “ancient ones,” migrated south to the San Juan River basin, building adobe villages. This caused the Spanish to call the people Pueblos, which means village. The Pueblos brought their pottery traditions with them and remain the groups most connected with the art form in the Southwest. Acoma, New Mexico, is an example of one of the oldest villages. Others are clustered near the modern city of Santa Fe, with Zuni further west and Hopi in Arizona. Although not all the groups live in pueblo-style towns, most are loosely related by language, and the natives consider themselves as sharing most cultural traits.

This exhibit features several prehistoric pots and an early historic pot from Acoma, probably made in the late 1800s. The style connects with the contemporary collection of small pots made from 1960 to 1980 in different pueblos.

![Label Example](image)

**Greenland Style Model Kayak**

- ca. 1850
- Alaska Territory or Western Canada
- wood, hide, ivory
- NAI.98.2010

**Figure 4.3** Connecting Objects to their People: From the Arctic to Arizona Label Examples (Thompson).
The communication function of each label must trump the institutional aesthetic or personal flair of the designer. That is not to say that the communication content cannot contain a personal look, voice, and perspective; however a label that gets is remembered for its unique style or favorable typography at the expense of the overall exhibition experience is just as much of a failure as the label that never gets read. Between choosing the correct word and having the label fabricated and installed, there is an unequivocal step called design. Exhibition designers and writers should have the like-minded goal of good communication but each brings different indoctrinations to finding the best remedy for ineffective labels (Exhibit Labels: An Interpretative Approach 205).

Below is a list of Serrell’s “deadly sins” of label writing, sins both in writing and design:

1. Labels that are not related to a big idea, that ramble without focus or objectives.
2. Labels that have too much emphasis on instruction.
3. Labels that do not address visitors' prior knowledge, interests and/or misconceptions—that don't know who the audience is.
4. Labels with no apparent system of design and content to organize the messages, codes, or context.
5. Labels written with a vocabulary that is out of reach for the majority of visitors.
6. Labels that are too long and wordy.
7. Labels that ask questions that are not visitors' questions.
8. Labels for interactives that do not have instructions or interpretations located in integrated, logical ways.
9. Labels that do not begin with concrete, visual references.
10. Labels that are hard to read because of poor typography (bad choice of typeface, design, colors, lighting, materials, or placement).

(Exhibit Labels: An Interpretative Approach 233-234)

This brief list is handy to keep while creating labels. While all of the information in this chapter will be helpful, as stated before, there is no substitution for the expertise of a trained graphic designer. Working with someone who is skilled in communication design will be invaluable to the success of your exhibition.
Museums are typically viewed as conservative and traditional institutions that are meant to educate and pay homage to their respective histories. However, these once unchangeable places now are faced with having to adapt to certain 21st century standards in order to meet the expectations of the younger generations of visitors. The ability to utilize effective online and application programs while touring a museum is critical to meeting the expectations of “hands-on” and multimedia types of learners. Challenges arise as museums must discern what technologies are appropriate to offer in order to keep the integrity of their museum and not compromise exhibitions. Hawkey, contributor to London’s King’s College FutureLab publication series, explains further about the personalized experience museum visitors can have when they are given the opportunity to use new technologies. He states:

Learning in museums is concerned with objects but also essentially with people. One of the paradoxes of the application of digital technologies is that they can simultaneously provide a personal, individualized experience and yet at the same time offer unprecedented opportunities for the kinds of wider social interaction that can enrich learning. In the 21st century museum, too, questions of real or virtual also have far less meaning even than four or five years ago, as sensitive and appropriate use of technology
is seen to enrich the experience of learning from objects and exhibits, rather than competing with them. (29)

New technology is being embraced in many ways in today’s museums. Cell phone tours, once cutting edge technology, are becoming a thing of the past. Apps, QR codes (quick response codes), and iPads available for visitor use are all being used to augment the learning experience. In the realm of apps, for both smartphones and the iPad, museums are using them to supplement directional signage, along with exhibit and object information. Streamlining technology in museums keeps educational information interactive and engaging to hopefully attract young visitors and encapsulate them in learning while at the museum.

The specific digital integration in museums that will be discussed here will include iPad and smartphone apps— which can provide exhibition previews for visitors before coming to the museum, a plethora of visitor information onsite, and additional learning opportunities after the visit. These apps can be downloaded before the visitor gets to the museum and then can be used throughout the exhibition. In addition, the following information will introduce the use of QR codes. A QR code or quick response code is similar to a barcode that can be scanned during a museum visit, using a smartphone. These codes are easily generated, usually for free online, and are programmed to take you to a specific website or app. Once a code has be scanned it can provide additional information about the exhibit and the objects within it, along with information on other events surrounding the exhibit. The photo below shows an example of a QR code being scanned at the Children’s Museum of Indianapolis.
These new technologies, are the learning tools of the future. Tallon states in his book, *Digital Technologies and the Digital Experience*, “Advantages include a variety of interpretations, engagement of visitors, outreach to new audiences, support for orientation, and flexibility with content distribution” (81). Museum technologies extend the learning process past the time of the visit because they allow for “book-marking and retrieval” by offering digitalized images of objects in the museum or links to other resources for further study (37).

The integration of new technologies provides the museum visitor with a more personalized experience that greatly enhances education and discovery. Integrating the virtual realm can free learners from the current constraints of a static museum experience. The flexibility of information presentation that is possible with the digital age brings
something new to the table. Tallon provides the following list of the characteristics of successful digital integration,

1. One size does not fit all: different audiences have different needs and wants that may not be compatible within a single device. While mobile digital technology can deliver many different types of experience, a single device should not attempt to cater to all possible needs and wants.

2. Exploit visitors' existing knowledge and mental models: the mobile digital technology should behave, or at least seem to behave, like other forms of technology with which the visitor is familiar.

3. Make people aware that they have control over the device: it is not enough just to provide a flexible system; people also need to be aware that they have control over the flow of information to suit their immediate needs.

4. There needs to be a seamless match between what the visitor experiences in the real world and the content provided via the mobile digital device. Visitors need to realize that the two sources of information correspond to one another.

5. Design content and hardware for social interaction: audio and visual information must be shareable with other people; content should be delivered in small chunks to allow plenty of time for conversation and viewing of the object or artwork.

6. Prototype versions of the device must be tested with samples of the target audience to ensure that they can quickly learn how to use the controls. Even when the device is based on familiar technology, the novelty of the museum setting can result in unexpected patterns of use. (51).

The 2012 Museums & Mobile Survey findings give insight into how many museums are taking technology to the next level in their institution. Tallon & Finkelstein report their findings,

Of the 554 survey respondents currently working in a museum: 177 worked in an institution that currently offered a mobile experience. 165 worked in an institution that had plans to launch their first mobile experience in the next 12
months. 212 worked in an institution that was not currently using mobile, nor had plans to do so. (5)

Although creating a successful app can take a great deal of research, development and money, *2012 Museums & Mobile Survey* notes that there is a noticeable correlation between the annual attendance of the institution and the success of their mobile programs.

Two museums that have developed highly rated, successful apps are The American Museum of Natural History in Washington D. C. and The Museum of Modern Art in New York City. The app, *Explorer*, employed by the American Museum of Natural History, gives museum visitors total control of their visits. It offers a custom navigation system that guides a visitor through the museum and acts as a personal tour guide. The user can choose which parts of the exhibition, specimens, or artifacts they would like to see how many stops there will be on their tour through the museum. If desired, the app determine visitors’ current locations, and direct them to the nearest food, shops, restrooms, and exits. The app also contains a nicely designed interactive map, includes a video tutorial on how to use the app, and features a built in exit survey. *MoMA*, the app, is like having a mini modern art museum in your pocket making it possible for visitors to access tens of thousands of works in the collection, take mobile tours, or learn about artists and art history. The app has everything needed to plan a visit, including such things as the following: information about current exhibitions, hours, admission, directions, and accessibility.

QR codes, provide access to chat labels and provide other content that a museum visitor sees while at the exhibition. They can take the visitor on a journey through the museum, leading to different places throughout visit, and easily allow a whole world of
digital media to be ‘attached’ to physical objects just by using a small printed code.

Shelley Bernstein the Chief of Technology at the Brooklyn Museum in New York says, “Although QR codes are essentially web-address links, when connected to an online database of objects their possibilities become quite powerful. An object in the real world—a museum specimen—can be permanently linked with a growing and editable repository of online material, revealed to visitors through their smartphones or similar devices” (Bernstein).

Bernstein and the Brooklyn Museum are still in the process of finding where QR codes fit in with museum strategies. QR Code implementation at the Brooklyn Museum will be used to provide additional information via mobile devices making it possible to place less information on the walls of the exhibition space. One concern when trying out the new method was for issues related to accessibility and sensitivity to users who do not have a Smartphone. Shelley Bernstein goes on to say,

In the QR code trial, we want to make sure the codes do not create unnecessary confusion or exclusion for visitors and, to this end, we’ve created a mobile palm card to help explain things. While we still expect use to be fairly low, we’ll be looking at metrics and comparing them to other types of mobile use, namely our mobile website and our mobile app—we are curious to see if pickup rate increases as we move to an on-demand system using readily off the shelf technology (Bernstein).

Institutions must also take into account a user’s attention span while interacting with an app or using a QR code. Tampering too much with traditional ways that information is presented inside of a museum could be ostracizing to some visitors or donors. Museums, however, have a responsibility to stay up with current technology and must continue to strive to be facilitators of education. The balance can be difficult, but there are steps to take before using QR codes that will ensure a successful transition.
These include an incentive or a call to action can improve the chances of QR acceptance.

It is also vital to test codes before releasing them for public use, possibly implementing
them on only a small sampling of people or putting them to use in only a portion of the
museum. The integration of a QR reader into a museum app is an effective way to
eliminate the extra, cumbersome step of downloading a third party reader app. Free Wi-Fi
at a museum is invaluable for users with an iPad and those without reliable cell phone
service in the area. Scott Billings, a contributing journalist for MuseumNext: Europe's Big
Conference on the Digital Side of Museums proposes the idea that,

[…] there have to be clear benefits to both visitors and museum
departments of using QR codes. While the actual act of using a phone to
‘magically’ read a code may appeal to some (it does: to younger visitors
[…] it is what the code is linking to that is the real issue. Even without
referencing a co-created database of ‘things’, there are still plenty of
appealing uses of QR codes for museums. They can provide quick and
immediate links to material that supports interpretation, education or a
marketing campaign, for example.

Whether that’s the back story on an object or a video of an artist installing
a sculpture is neither here nor there; it’s about the value added through
that content. QR codes are simple to make and inexpensive, which has
massive appeal to the cultural sector, [but] are we enhancing the visitor
experience in the ways people want? (Billings).

Hugh Wallace, Head of Digital Media at the National Museum Scotland,
discusses this issue further, explaining how important it is to exercise consistency and
create content that enhances the museum experience. Wallace writes,

Then comes the wider subject of using devices at all, how does using a
device in a curated space work? Does it change the atmosphere of the
room, does it change the relationship with an object or detract from
engaging in conversation with gallery/museum staff, does the way people
move in the space change and do people want this level of information in
the space or later when they get home (Wallace).
These are all important and necessary questions to be asked when developing digital content in an exhibition space.

Overall, museums should be cautious yet proactive when integrating new technologies. Though sometimes costly, these relatively new technologies can be justified and implemented effectively if museums consider the education of their audiences as the main motivation for the integration of these mobile applications. In the twenty-first century technology changes quickly. Cutting-edge technology in the museum setting needs to be reviewed and updated on a regular basis. Fortunately, these changes in technology often include streamlining and lower costs.
CHAPTER VI

CONCLUSION

The successful creation and presentation of information in a museum or a specific exhibition takes skill and team work. Ideally, all museums would have experts in place to provide strategic guidance at each phase of process of creating effect exhibitions. However, often museum employees, curators, and designers are asked to function outside their fields of expertise to complete a project. Using the methods, principles, and rules described in this study, the probability of effectively conveying information in an exhibition is enhanced. Museums are no longer simply buildings that showcase artifacts. Today they are institutions that make use of emerging technology to provide an engaging relationship with collections and exhibitions, and, in a optimal situation, help visitors toward enlightenment.

Day after day museums face shared problems that affect content presentation, design, and resonance. No matter the size of an institution, all those involved in the operation of solving these problems should be concerned with how the content and message are presented and the overall effectiveness of each exhibition.

Museums that have proper conceptual and spatial organization give people the incentive to spend more time in them and learn more, which increasingly has become the
core reason for the existence of museums. When visitors spend more time in an exhibition, they are more inclined to understand what the exhibit is about. The most popular sections of a well-designed exhibition will attract a broad demographic of the audience rather than an esoteric one. Those who read labels and those who use interactive devices are not two separate audiences. Labels that contain solid, visually referenced material will increase diverse visitors' penchants for continued viewing. As museums begin to adapt to visitors’ expectations of interactive and accessible material, and work strategically to shake the stigma of being archaic and antiquated institutions providing passive experiences, museums will increase the likelihood of moving relevantly into the future.
BIBLIOGRAPHY


