

MUSEUM EXHIBIT PLANNING: AN EXPLORATION OF THEORY
AND PRACTICE AMONG ELECTRONIC MAILING LIST AND
NEWSGROUP SUBSCRIBERS

by

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Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements for the Degree of

MASTER OF SCIENCE

Department of Clothing & Textiles
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LINDA L. DIFFEY

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree**

of

MASTER OF SCIENCE

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ABSTRACT

Museums play a significant and unique role in society as powerful ideological tools, disseminators of knowledge, generators of meaning and centers for public debate. Typically, the museum exhibit is the medium used to fulfill these functions. As the point of interface between visitor, objects and institution, the exhibit sets the stage for various communicative acts. How exhibits are planned and developed underlies this communication process. Although visitors are the primary recipients of exhibit messages, their input has not traditionally been sought by exhibit planners.

A review of the literature revealed an apparent shift in the way visitors are considered during exhibit planning. Incorporating feedback from visitors into exhibits can be beneficial for museums, resulting in increased attendance, improved communication, and a broader audience. Emerging conceptual models of exhibit planning reflect this visitor inclusionary philosophy. However, evidence of these models in actual practice is scant and anecdotal.

The purpose of this study was to explore current exhibit planning practices and determine the role the visitor plays in these processes. In particular, evidence of visitor inclusionary exhibit planning among the actual practices of exhibit planners was sought. The secondary purpose was to

explore and assess the utility of electronic mail for conducting open-ended interviews in social science research.

The lack of research in the area of exhibit planning practice precluded the use of an existing instrument. Therefore, using established qualitative methods as a basis, exhibit planners' experiences and attitudes were explored through open-ended inquiry. Communication with participants, recruited from seven electronic newsgroups and mailing lists dedicated to historical or museological topics, was conducted via electronic mail. The electronic mail interview proved to be an efficient and effective means of communication. Although some drawbacks for using electronic mail to conduct research were identified, the length and quality of the responses outweighed the perceived risks.

From the responses received, it was apparent that evidence to support the visitor inclusionary theories existed. Strict adherence to exhibit planning models was not observed, although it was apparent that the exhibit planners followed the general principles that are inherent in various models. The implementation of ideas from exhibit planning theory appeared to be tempered by a need for practicality. Exhibit planners balance the interests of the visitor against the limitations placed on the museum and exhibit planning team. While the visitor did emerge as one of the influential factors considered during the exhibit planning process, further research is needed to determine the prevalence of visitor inclusionary exhibit planning practices.

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CHAPTER ONE

Introduction

From imparting knowledge to sparking debate, from influencing attitudes to providing entertainment, the museum plays a significant and unique role in society. In 1970, Joseph Veach Noble, who would later become president of the American Association of Museums, defined the five basic functions common to all museums: to collect, conserve, study, interpret and exhibit objects of interest and importance to a particular discipline. While these remain at the heart of the museum's mission today, it is widely recognized that museums serve purposes beyond these basic functions. Traditionally disseminators of knowledge, museums also act as powerful ideological tools, generators of meaning, and centers for public debate on issues of contemporary interest (Esteve-Coll, 1993; Miller-Martí, 1987). As Esteve-Coll has stated, museums' cultural significance is greater than the collections they hold.

Central to the museum's basic functions is the museum exhibit. The exhibit is the point at which visitors, objects and museum staff converge, and as a result is the setting for much of the communication that takes place in the museum. The planning and development of museum exhibits play a key role in this communication process. Yet despite being the primary receivers of exhibit messages, visitors have typically not been included in the exhibit planning process.

As education has taken an increasingly significant role in the museum's mission, greater consideration has been given to the visitor (Screven, 1993b). In addition to an expanding body of research involving museum visitors, a new approach to exhibit planning has seemingly emerged. The inclusion of the visitor in the decision making process has been espoused by numerous authors as being an improved method for developing exhibits (Hooper-Greenhill, 1992; Miles, 1993a; Volkert, 1991). It is believed that by breaking down the barriers between the private space of the curators and the public space of the visitors (Hooper-Greenhill, 1992), the result will be exhibits that communicate more effectively and appeal to non-traditional audiences that have not usually been targeted in the past (Volkert, 1991; Walsh, 1992). Having a role in the exhibit planning process allows visitors to take part in the generation of meaning and to provide feedback about their wants and needs (Hooper-Greenhill, 1992; Knott, 1992; Volkert, 1991).

Purpose of the Study

The purpose of this study was to investigate current museum exhibit planning practices and determine the role the visitor plays in these processes. In particular, evidence of visitor-inclusionary exhibit planning among the actual practices of exhibit planners was sought. The secondary purpose was to explore and assess the utility of electronic mail for conducting open-ended interviews with exhibit planners.

Justification

The value of investigating the practices of exhibit planners is directly related to the social significance of museums. A brief examination of the museum in society and in communication, as well as the relationship between the visitor and museum exhibits therefore provides a foundation for this study.

Although other social institutions and communications media may perform similar functions, the museum has distinct qualities that separate it from other forms of education and entertainment. Museums offer free choice learning (Falk, Koran, Dierking, & Dreblow, 1985) and may have some advantages over more formalized public education (Miller, 1988). Visitors are free to explore and discover on their own and, potentially, use all of their senses during the learning process (Esteve-Coll, 1993; Vance & Schroeder, 1992). Museums are places for social activity, yet also provide opportunities for solitary contemplation (Esteve-Coll, 1993). As a complement to other learning media, museums are particularly effective at motivating and stimulating interest in many different topics, thus fostering greater involvement in learning experiences outside of the museum environment (Miller, 1988; Hicks, 1986).

Perhaps the greatest strength of museums is that they facilitate an encounter between the visitor and a real, not simulated, object (Esteve-Coll, 1993; Belcher, 1991; Schueler, 1983). Books and television can convey data, images, feelings and arguments (Belcher, 1991; Schueler, 1983), but museums present actual, three-dimensional objects as evidence for the theory or storyline being communicated (Schueler, 1983). Museums provide

unique opportunities that are not addressed by other institutions in quite the same manner.

The importance of the museum is also defined by the value placed on these institutions by members of society. Increasingly, people are taking more of an interest in, and therefore placing more value on, heritage related subjects and institutions. This heritage movement has its roots at the beginning of the twentieth century, when people became concerned with their own personal pasts; the collection and appreciation of objects with which people felt a direct affiliation, such as photographs, began at this time (Walsh, 1992).

During the 1940's, the expansion of higher education and the production of historical television programs helped cultivate the popularity of history and generated interest in studying the past (Walsh, 1992). The 1970's and 1980's witnessed a heritage boom, with a dramatic increase in the number of heritage attractions that are representations of the past (Walsh, 1992). The public interest in the historical environment and museums has continued into the 1990's (Walsh, 1992). Increased attendance figures are evidence of the growing popularity of museums (Vance & Schroeder, 1992). Debra Ward, president of the Tourism Industry Association of Canada has observed that today's tourists are seeking unique experiences of the past and that "there's a shift back to wanting something that's real as opposed to a Disney version of events" (Morris, 1997, p. C3). Clearly museums are a valuable resource in meeting this demand.

There are a number of means by which museums contact the public, and thereby meet their demands. Publications, formal education programs, tours, and, increasingly, Internet websites, are perhaps among the most common ways that museums interact with the public. But it is most often the exhibit that people experience upon visiting a museum (Shettel, 1973). The museum exhibit is the point of interface between the audience, the collection, and the institution (Esteve-Coll, 1993). It is an act of communication between the exhibit creators and the visitor (Doering & Pekarik, 1993). That museums allocate a great deal of space, money, and staff to the production and maintenance of exhibits is a testament to their perceived value (Shettel, 1973).

To acknowledge the significance of the museum exhibit is also to acknowledge the significance of the exhibit visitor. Indeed, the visitor and exhibit are "necessarily interrelated" (Scheile, 1993, p. 28). Belcher (1991) defined the exhibit as a showing for a purpose, with that purpose being to affect the viewer. Professional museum associations from Manitoba, Canada, the United States and at the international level all emphasize the necessity of exhibiting museum collections to the public (Ambrose, 1993; Association of Manitoba Museums, 1997; Weil, 1990). By definition then, the visitor is essential to the exhibit.

Visitors not only provide the *raison d'être* for exhibits; their financial contribution is the lifeblood of museums. The admission fees paid by visitors through their voluntary attendance is a significant source of financial support for museums (Donahoe, 1988; Linn, 1983). During the 1993-1994 fiscal year, admission

fees were the top non-government source of operating revenue for Canadian museums, totaling 38.1 million dollars or 7.5% of the total operating revenue (Canadian Heritage and Statistics Canada, 1997). According to Knott (1992), the visitor can be considered the primary consumer. The economic recessions of the late 1980's and early 1990's and dwindling public funding has heightened the museum's dependence on the visitor (McManus & Miles, 1993; Williams & Rubenstein, 1993; Zyskowski, 1983). At the same time, the number of museums, science centers, and heritage sites has increased, meaning that museums face more competition for visitors than ever before (McManus & Miles, 1993; Moore, 1988). Screven (1993a) notes that museums also face growing competition from other leisure time activities. Therefore, the museum's financial success is becoming more dependent on success in the commercial marketplace (Williams & Rubenstein, 1993).

Museums have taken a growing interest in the visitor as the reliance on visitor attendance has increased (Borun, 1992; Schiele, 1993). In order to compete for visitors, it is advantageous to ascertain such information as who they are, why they attend, what they like, as well as their aims and expectations (Donahoe, 1988; Mann, 1988; McManus & Miles, 1993; Moore, 1988). Thus, the marketing of museums, including exhibits, is gaining credence as an effective means of encouraging return visits, increased attendance, and positive word of mouth publicity (Everett, 1988). The presence of a marketer among museum staff is becoming commonplace as a more market-led approach to exhibit planning emerges (McManus & Miles, 1993).

Traditionally, the museum visitor has been excluded from the process of planning exhibits. In the conventional approach to exhibit planning, curators select the topic and content, and the designers present these visually; input from visitors is not considered (Doering & Pekarik, 1993; Hooper-Greenhill, 1992; Knott, 1992; Miles, 1993a; Screven, 1993b). Exhibits developed in this manner tend to reflect the goals and interests of the exhibit planners, not necessarily those of the visitor (Knott, 1992). This approach persists today (Hooper-Greenhill, 1992; Miles, 1993a; Screven, 1993b).

While museum professionals have been engaging in a great deal of rhetoric regarding the inclusion of visitors in the exhibit planning process, it is not evident whether this has been put into practice (Knott, 1992). Screven (1993b) has stated that museum planners are generally not employing visitor inclusionary methods despite the growing acceptance of research in this field.

Given that museums play a significant role in society, particularly as interest in heritage related subjects grows, and that the interaction between exhibits and visitors is the primary means by which museums contact the public, it follows that visitors should be an integral part of the exhibit planning process. A review of the literature revealed that this is not always the case. How, then, do exhibit planners consider the visitor during the exhibit planning process? To what degree do visitors influence exhibits? Are there factors other than visitors that exhibit planners consider more important?

Objectives

This study investigated the role of the museum visitor in the exhibit planning process and gathered evidence regarding the actual practices of exhibit planners. The specific objectives of the study were:

1. To ascertain the identity of decision makers in the exhibit planning process.
2. To identify and describe the factors considered by exhibit planners when developing exhibits.
3. To determine (a) whether visitor-centered planning approaches are practiced by exhibit planners, (b) what role visitors play in the exhibit planning process, and (c) whether information about visitors is used during exhibit planning and if so, how this information is obtained.
4. To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

Definitions

Specialized terminology will be used throughout this study. The following are definitions ascribed to these terms.

Museum: "A non-profit making, permanent institution, in the service of society and of its development, and open to the public, which acquires, conserves, researches and communicates, and exhibits, for the purposes of study, education and enjoyment, material evidence of people and their environment." (The International Council of Museums as cited in Ambrose, 1993, p.2)

Visitor: A member of the public that enters a museum for the purpose of viewing the exhibits.

Exhibit: The visual presentation of an idea or message, utilizing objects from a museum's collection, in a setting that is open to the public.

Clothing and textiles exhibit: A museum exhibit wherein clothing or textile objects constitute the majority of the items displayed.

Exhibit planning process: The process of initiating and developing ideas, themes, interpretations, design concepts and educational material for a museum exhibit. This includes decisions and adjustments made after the exhibit has been opened to public viewing.

Exhibit planner: Anyone who engages in decision making during the exhibit planning process.

Heritage attraction: A non-collection based organization that publicly displays objects, either real or replicated, related to historical or cultural subject matter.

Limitations

The following limitations have been identified for this study:

1. Only exhibit planners who subscribed to museum or history related electronic newsgroups or mailing lists were included in the target population;
2. Only museum professionals who engage in the exhibit planning process, as defined earlier in this chapter, were considered eligible for participation in the study;
3. Only those exhibit planners who were presently employed or contracted by a museum were included in the study;
4. Only exhibit planners who were associated with museums that regularly engage in exhibit planning were included in the study.
5. Participants for the study were self selected rather than randomly selected; and
6. Due to the electronic mail medium, the identity of the subjects could not be confirmed absolutely.

CHAPTER TWO

Review of the Literature

Museum exhibits are intimately intertwined with the institutions that produce them. For this reason, the review of the literature will initially examine museums and the broader social context in which they are situated. This will be followed by an examination of communication theory and how mass communication models have been applied to museum exhibits. Finally, various conceptual frameworks of exhibit planning will be examined across time.

Museums

Museums are typically perceived as institutions that serve the general public and are educational in their intent; this was not always the case. The present conception of the museum as a cultural resource for people from varied backgrounds and social stratum is a rather modern idea.

During the 19th century, the museum acted largely as a repository of objects. The collections were used for scholarly research and access to the museum was restricted to all but a privileged few (Walsh, 1992; Volkert, 1991). Rows of display cases housed objects presented with identification labels; viewers were expected to possess sufficient knowledge to understand the meaning and significance of the artifacts (Miles, 1993a; Volkert, 1991; Williams & Rubenstein, 1993). During the latter half of the nineteenth century, museums opened their doors to the public,

although the exhibits were aimed at the educated middle class and not the working class (Walsh, 1992). After the turn of the century, a wider audience for museums was sought and attention turned to providing interpretations that would facilitate understanding of the exhibited objects (Peart, 1984; Volkert, 1991). Thus, education started to emerge as a function of the museum (Ames, 1993; Donald, 1991; Peart, 1984; Volkert, 1991).

By the 1960's, the framework of the modern museum was in place. Museums had come to serve five basic purposes: to collect, conserve, study, interpret, and exhibit objects considered to have cultural or historical significance (Weil, 1990). These core functions, delineated by Joseph Veach Noble in 1970, still define the basic mission of the museum today (Belcher, 1991; Weil, 1990). Since the 1970's, the educational role of the museum has become firmly established; educators are frequently employed by museums and learning is the subject of a great deal of museological research (Screven, 1993b; Volkert, 1991).

Recent publications reflect the growing recognition that the museum fulfills functions beyond the basic five. Weil (1990) has observed that museums act as disseminators of values. Museums transmit messages regarding what is considered important or significant through the selective collection and interpretation of objects (Hooper-Greenhill, 1992; Weil, 1990; Vollmer, 1997). These values are not absolute concepts, but rather have historical and cultural contexts (Harrison, 1987; Hooper-Greenhill, 1992). Thus, what museums choose to collect and exhibit is guided by what is considered valuable to the society at large (Hooper-Greenhill,

1992; Vollmer, 1997). In this way, the museum reinforces the social values, real or ideal, of the present society (Miller-Martí, 1987).

As a communicator of values, the museum serves a number of purposes. Museums can act as ideological tools used to create feelings of patriotism, justify the central authoritative agenda of a society, bestow moral guidance, or uphold the political ideals of the population (Harrison, 1987; Miller-Martí, 1987). Furthermore, the museum is a generator of meaning (Esteve-Coll, 1993). Material objects have no essential identity without interpretation (Hooper-Greenhill, 1992). Like values, the meanings ascribed to objects are not constant, but rather products of the larger social and cultural context in which the museum is situated (Hooper-Greenhill, 1992).

Traditionally, the museum was perceived as an authority that was not questioned; the messages presented were assumed to be the objective truth (Volkert, 1991). However, acknowledgment among the museum community that value neutrality is not possible has given rise to some new ideas about the role of museums (Weil, 1990). Proponents of the ecomuseum or new museology movement believe that members of the public should be more active in the interpretation of meaning and question the messages and values being transmitted by museums (Hooper-Greenhill, 1992; Volkert, 1991; Weil, 1990). This democratization process serves to empower the visitor and open museums as centers for public debate on contemporary issues (Esteve-Coll, 1993; Weil, 1990).

Museums have a long history of collecting objects, but how these collections have been used in society has evolved. As Hooper-Greenhill (1992) notes, there has been no single, fundamental role of museums across time.

Social Context

Museums, like other social institutions, are influenced by the social, economic and political forces around them (Hooper-Greenhill, 1992). Changes in the form and function of the museum can be attributed to the changes in the society that surrounds it.

Probably one of the most significant social factors impacting museums in the present day is the heightened interest in heritage. The emergence of groups dedicated to the preservation and conservation of historic buildings, photographs, archival materials and similar collections are evidence of this trend (Walsh, 1992). Media coverage and television programs focusing on arts, science and historical subjects have increased since the 1940's and have played an important role in the popularization of historical topics (Esteve-Coll, 1993; Walsh, 1992). Presently, television channels dedicated entirely to historical subject matter are widely available in North America. As public interest in heritage related subjects has grown, so has the number of museums, heritage sites and theme parks (Moore, 1988; Walsh, 1992).

A number of underlying factors have contributed to this heritage movement. Some originate from a fear of losing cultural or historical identity. Walsh (1992) observes that since the

Enlightenment period of the 18th century, the process of modernization has separated people from the traditions and ways of the past generations. In an effort to reduce this sense of losing the past, institutions such as museums developed. Since the 1970's, an era of neo-conservatism has brought a renewed interest in tradition, and thus an interest in historic topics (Walsh, 1992). In addition, the movement towards globalization has raised the possibility of cultural homogenization, fueling the perceived need to protect the historical identity of nations (Walsh, 1992). As society becomes increasingly pluralistic, this protection of individual cultures is sure to continue (Middleton & Walsh, 1995; Walsh, 1992).

Changes in the population are also related to the growing interest in heritage and museums. Participation in arts and cultural activities, such as attending museums, increases with the level of education attained (Statistics Canada, 1995). In general, members of the public at present are achieving a higher level of education than past generations (Esteve-Coll, 1993). Canadian statistics support this. In 1972, 18% of adult Canadians had some post-secondary education; by 1992, this figure had risen to 43% (Statistics Canada, 1995). Furthermore, Canadian museums have reported a steady increase in attendance between the 1991-1992 fiscal year and the 1993-1994 fiscal year (Canadian Heritage and Statistics Canada, 1997; Statistics Canada, 1994). In 1992, 56% of Canadians over the age of fifteen reported visiting a museum, art gallery or heritage site in the previous year,

indicating that there is a significant interest in heritage activities among the Canadian public (Statistics Canada, 1995).

Technological developments in the areas of communication and transportation have impacted the lives of the majority of people since World War I (Walsh, 1992). Along with these changes has emerged a new cultural phenomenon known as post-modernism. Characterized by rapid technological developments, instantaneous communication, pluralistic culture, and the breakdown of the division between high and low art, post-modernism stands to impact museums in some profound ways (Miles, 1993a; Middleton & Walsh, 1995; Walsh, 1992).

The period of modernity, which originated in the Renaissance period after the Middle Ages, formed the backdrop for the traditional museum. Modernism broke away from the supernatural beliefs that characterized the medieval era and focused on rationality, order, and progress (Hooper-Greenhill, 1992; Middleton & Walsh, 1995; Sklar, 1987; Walsh, 1992). The first museums in the 1700's reflected this concern with order (Walsh, 1992). The static, taxonomical display of objects remained the predominant presentation style, with some fashion variations, for centuries and it persists today (Miles, 1993a; Williams & Rubenstein, 1993; Walsh, 1992). Moreover, these exhibits were perceived as closed displays; challenges to the curators by members of the public were neither expected nor encouraged (Hooper-Greenhill, 1992; Walsh, 1992; Volkert, 1991). And despite the general acceptance of ideas such as freedom of speech and tolerance of different races, the modern era was dominated by

Western versions of history and the exclusion of the views, traditions and practices of groups that deviated from the mainstream (Middleton & Walsh, 1995; Sklar, 1987).

Post-modernism poses some new challenges for museums. The old-style of presentation is seen as outdated and irrelevant in today's society, particularly among younger museum visitors (Miles, 1993a). The old technologies are inadequate for exhibiting modern ideas; multimedia exhibits that allow active interaction with visitors are a better reflection of the current societal trends (Miles, 1993a). Instantaneous communication technologies, such as the Internet, have fostered a desire among the public to know everything about a subject, and know it instantly (Vollmer, 1997). Thus, museums are faced with meeting this demand.

As previously marginalized groups gain recognition, the dominant cultural institutions (universities, art galleries and museums) are confronted with increasing criticism (Middleton & Walsh, 1995). A recent African exhibit at the Royal Ontario Museum was the subject of protests among the black community that claimed the story was presented in a racist, paternalistic manner (Middleton & Walsh, 1995). To counteract this negative publicity, the museum presented an exhibit in 1992 that was collected and curated by native people (Middleton & Walsh, 1995). This example illustrates the postmodern ideas of hearing previously unrecognized and under-represented voices as well as the questioning of curatorial authority (Hooper-Greenhill, 1992; Volkert, 1991). As ethnic and cultural groups have gained

increasing recognition in society, so have women. In the past, women's history was not adequately recorded and maintained; now, exhibits dedicated to women's roles and contributions to society are being presented more frequently (P. Mailhot, personal communication, October 17, 1997).

Museums are also being challenged by the changing economic climate. The economic recessions of the 1980's and early 1990's placed serious financial constraints on museums (McManus & Miles, 1993). Governments are a vital source of assistance for museums, through grant programs, tax exemptions, transfer payments, cultural policies, and even the direct operation of institutions (Verma, 1996). However, government funding is on the decline (McManus & Miles, 1993; Williams & Rubenstein, 1993; Verma, 1996; Zyskowski, 1983). In Canada, government spending on culture has been falling since 1989-1990 (Verma, 1996). For the museum sector, federal funding dropped 6% between the 1993-94 and 1992-93 fiscal years (Verma, 1996). Withdrawal of support by the government is putting pressure on organizations to find other ways of surviving (Verma, 1996). Admission fees and bookstore revenue account for 7.5% and 7.1% of museum operating revenue (Canadian Heritage and Statistics Canada, 1997). These are the two highest sources of non-government revenue and are entirely dependent on the attendance of visitors. Thus, success, and sometimes survival, for museums often entails the ability to compete for visitors in the marketplace (Williams & Rubenstein, 1993). Keith Kelly, National Director of the Canadian Conference on the Arts, has stated that "the way we have done things in the past is not

going to work any longer...we have to really look at new ways of bringing money in" (Interviewed by P. Gzowski, Morningside, CBC Radio, February 26, 1996).

At the same time, the amount of competition that museums face is greater than ever with the growing number of museums, science centers and heritage sites (McManus & Miles, 1993; Moore, 1988). Worldwide there has been an increase in the activities of culture and entertainment industries (Statistics Canada, 1995). Most cultural activities occur during leisure time (Statistics Canada, 1995). However, the amount of leisure time for the average Canadian has decreased from 5.5 hours/day in 1986 to 4.7 hours/day in 1992 (Statistics Canada, 1995). Not only is there less leisure time available, but there are also even more choices for leisure activities than ever before.

The present economic situation has left museums struggling with the debate over the role of entertainment in the museum. To attract greater numbers of people and stimulate visitors' interest, some museums have found it necessary to make exhibits more entertaining (Screven, 1993a). This popularization of the museum has not gained respect in academic circles, although market research has indicated that visitors want to be entertained (Belcher, 1991). Studies of visitors in the United States indicate that interest in cultural learning experiences, such as those offered by museums, is on the rise because visitors want an experience that is both educational and fun (M. Enright, posting on Museum-L, October 3, 1997). Screven (1993a) has cautioned that entertainment can be used as a means to an end, but it should not

become the end in itself; entertainment should not overpower the exhibit's message.

Societal changes have had a profound impact on both museums and visitors. Over time, interest in museums has become more widespread. Museums have responded to these changes in the interests and needs of the public they serve. This has implications for the way information is communicated to the public via exhibits. Thus, research on communication and learning in the museum setting have become key areas for research in the field of museology.

Museum Communication Models

In the simplest terms, a communicative act can be described as one that aims to produce an effect on another person or persons, as opposed to an expressive act that does not have this intention (Morgan & Welton, 1986). Through exhibits, educational programs, events, posters and many other media, museums engage in countless communicative acts. A thorough understanding of the processes involved can improve the effectiveness of communication in the museum (Hooper-Greenhill, 1994b).

Although museums are involved in the production of intentional messages, unintentional messages are also transmitted. These come in the form of hidden, ideological messages about what is considered valuable and important in society (Hooper-Greenhill, 1994a; Vollmer, 1997). While it is important to acknowledge that no communicative act can exist outside of an ideological context,

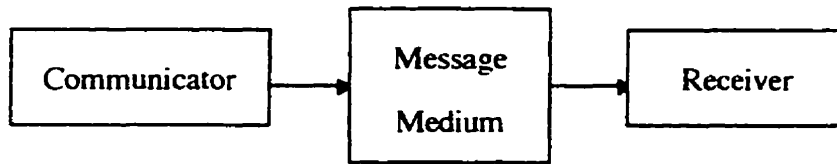
it is the intentional communicative acts that are more readily controlled during the exhibit planning process.

In recent years, museums have been shifting their focus from collections to communication (Hooper-Greenhill, 1994a). Indeed, professional museum associations have acknowledged the growing significance of communication by including it as an essential function of museums alongside Noble's (1970) original five (Belcher, 1991; Weil, 1990). The museum serves as a unique setting for communication, possessing characteristics of both interpersonal and mass forms of communication.

Unidirectional Communication Models

Interpersonal communication involves individuals or small groups that are in contact with each other; messages are verified through feedback and power is equally shared by both parties (Hooper-Greenhill, 1994a; 1994b). By contrast, mass communication typically takes place at a distance, often with one of the two necessary parties being absent (Hooper-Greenhill 1994a). Early theories characterized the mass communication audience as being large, undifferentiated, passive and not unified (Hooper-Greenhill, 1994b). Unlike interpersonal communication, the mass communication process was considered to be one-way, with the communicator defining the message and holding the power. No provision for feedback was included in these early models. Figure 1 illustrates the well known basic model of mass communication.

Figure 1. A simple mass communication model.



This simple model incorporates the essential elements necessary for communication: an intention on the part of the communicator, a subject of the message, a shared language or system of signs, and some reaction or change as a result of the process (Doering & Pekarik, 1993; Hooper-Greenhill, 1994a).

In 1949, Shannon and Weaver elaborated on this simple model (Figure 2). At the beginning of the process, a differentiation is made between original source of the message and the transmitter, which encodes the message. Likewise, the receiver, or decoder, and the final destination of the message are distinguished at the end of the process. As well, this model incorporates noise, which is defined as anything that might interrupt the transfer of information to the receiver. An example of this model applied to a television advertisement is depicted in Figure 2. As the information source, an advertising agency devises a campaign and hires a film unit (transmitter) to produce the advertisement. This is in turn broadcast by a satellite television company (channel) to the cable company (receiver) and is finally passed on to the home (destination) (Morgan & Welton, 1986).

This model can just as easily be applied to museum exhibits (Figure 3). The exhibition team acts as the information source

Figure 2. The Shannon and Weaver communication model (top) ¹ and an example of the model applied to the production of a television advertisement (bottom).²

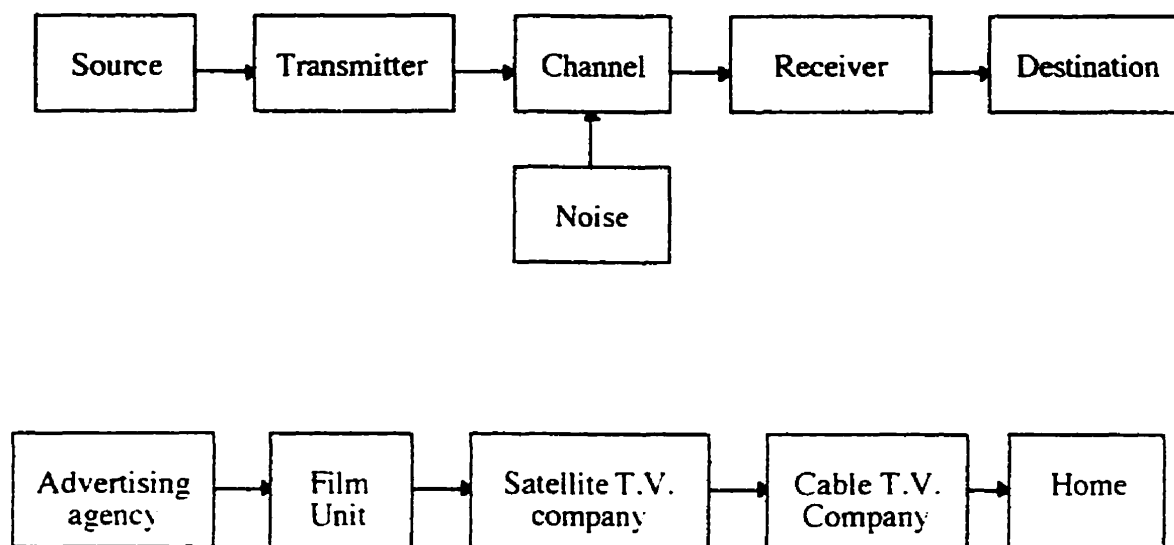
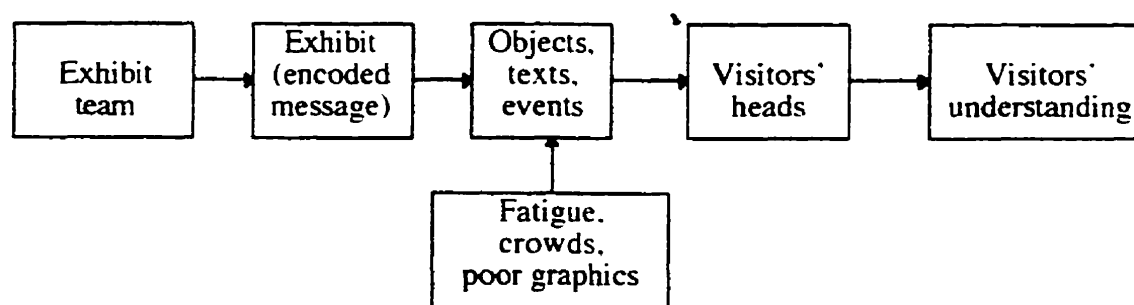


Figure 3. The Shannon and Weaver model applied to the museum exhibit.³



¹ From Mathematical Theory of Communication (p. 7), by C.E. Shannon and W. Weaver, 1949, Chicago: University of Illinois Press. Copyright 1949 by The Board of Trustees of the University of Illinois.

² From Museums and their Visitors (p. 41), by E. Hooper-Greenhill, 1994a, London and New York: Routledge. Copyright 1994 by E. Hooper-Greenhill.

³ From Museums and their Visitors (p. 42), by E. Hooper-Greenhill, 1994a, London and New York: Routledge. Copyright 1994 by E. Hooper-Greenhill.

while the exhibit is the transmitter or encoded message. Objects, texts and events serve as the channel, with visitors' heads as the receivers and visitors' understanding the final destination. Noise can take a number of forms, from crowds to visitor fatigue to confusing signals such as poor graphics (Hooper-Greenhill, 1994a).

Using the Shannon and Weaver model as a basis, Berlo (1960) devised a framework for skills and knowledge that two parties need in order to communicate effectively. Essential to this model is the notion that both parties must share similar experiences which come from sharing the same social system and culture. This is related to Schramm's (1971) model of communication (Figure 4) in which the overlap between the communicator's and the receiver's experience serves as the setting for communication. The message in Berlo's model is composed of interdependent components. Besides the content or subject, the message also consists of the individual elements, such as words, pictures, and sounds, that are structured to form the message. The code refers to the underlying rules and conventions upon which the message is based, such as the alphabet or grammar. Treatment is the particular style or influence that the individual communicator gives to the message.

Hooper-Greenhill (1994a) notes that communication can also be envisioned as "hierarchised chains" (p. 43). This form of communication is typically found in formal institutions, including large, traditional museums (Hooper-Greenhill, 1994a).

Figure 4. Schramm's model of communication. The area ab where A's experience overlaps B's experience is the setting for communication.⁴

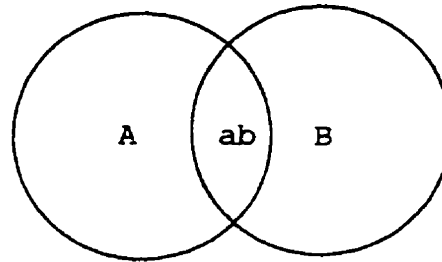
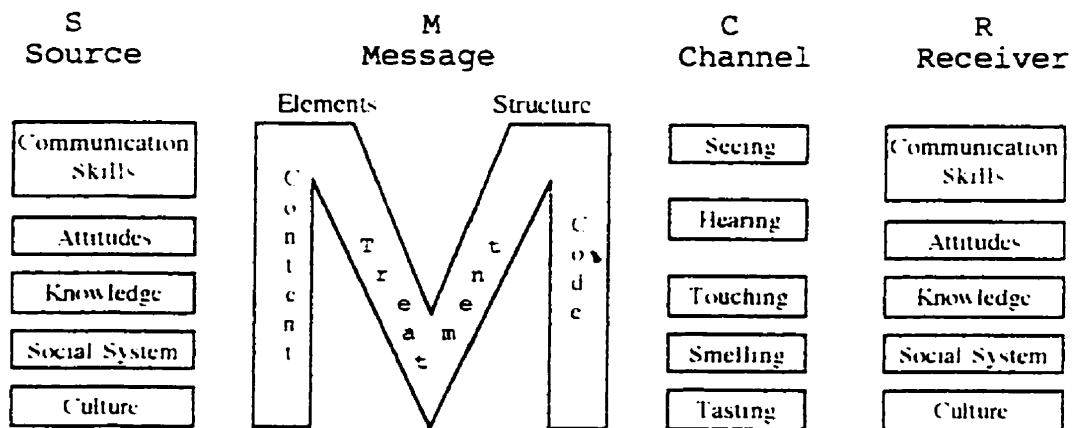


Figure 5. Berlo's SMCR model of communication.⁵

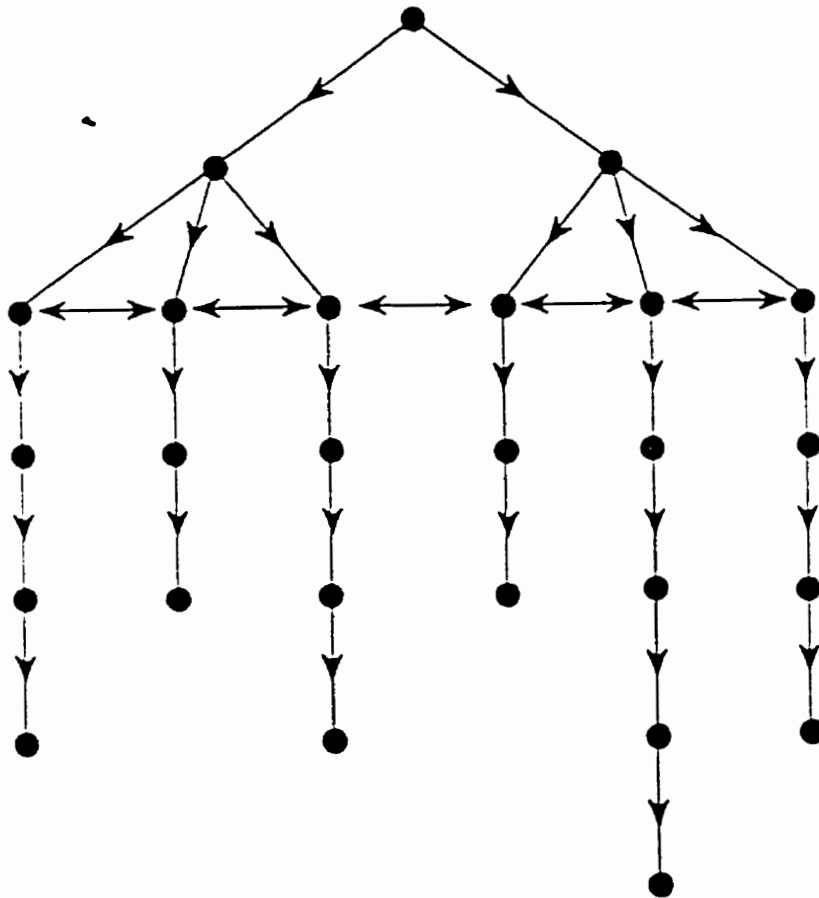


⁴ From "Nature of Communication Between Humans," W. Schramm, 1971, In W. Schramm & D.F. Roberts (Eds.), The Process and Effects of Mass Communication, (p. 31). Chicago: University of Illinois Press. Copyright 1971 by The Board of Trustees of the University of Illinois.

⁵ From The Process of Communication, by D.K. Berlo, 1960, London: Holt, Rinehart & Winston, p. 26.

Communication flows from the top down, not from the bottom up, and there is little communication between departments at lower levels of the chains (Figure 6). The delineation of the links prevents a great deal of communication from taking place. Today, this rigid, inflexible and authoritarian power structure is viewed by management theorists as wasteful and inefficient (Hooper-Greenhill, 1994a).

Figure 6. The hierarchised chains model of communication.⁶

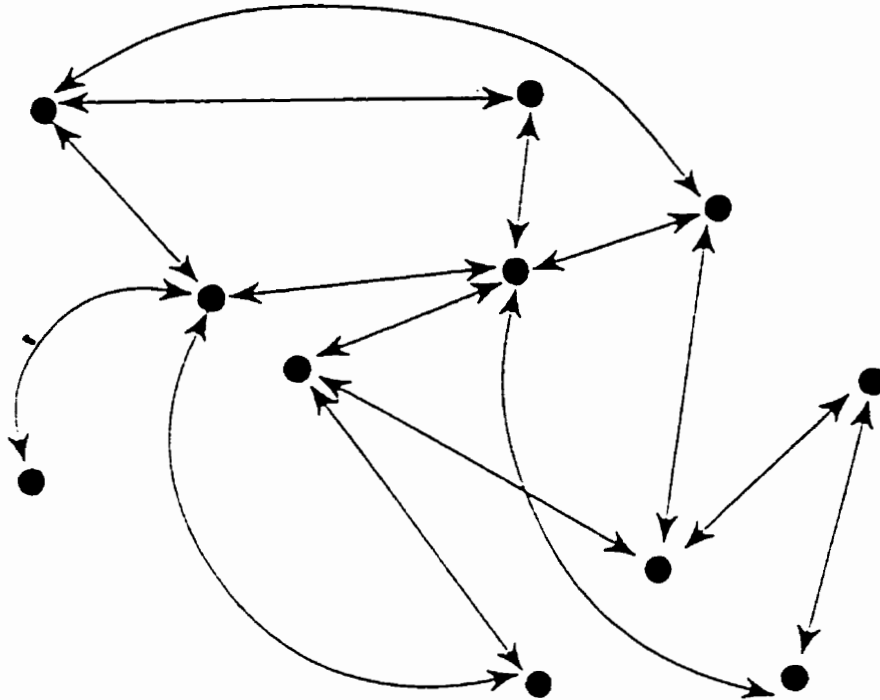


⁶ From Museums and their Visitors (p. 43), by E. Hooper-Greenhill, 1994a, London and New York: Routledge. Copyright 1994 by E. Hooper-Greenhill.

These simple models of communication have some fundamental limitations. By presenting communication as a simple transfer of a message from one party to another, the complexity that actually exists in communicative acts is ignored (Hooper-Greenhill, 1994a). Furthermore, the receiver is assumed to be passive in these models, making the flow of communication unidirectional. For this reason, models of this type are sometimes referred to as hypodermic needle or magic bullet theories of communication, in which the sender injects the receiver with ideas. Hooper-Greenhill (1994b) observes that museums are full of curatorial hypodermics. Because this system does not allow for modification of the message and there is no certainty that the visitors have shared experiences with the curator, the resulting exhibits can distort or fail to transmit the intended message. Lacking flexibility and variation, these models of mass communication do not incorporate the elements of interpersonal communication that also exist in the museum.

One way of conceptualizing interpersonal communication is the network of contacts model. Often seen in families or informal groups, this type of communication is characterized by the mobile and free flowing exchange of information (Hooper-Greenhill, 1994a). The model is non-hierarchical; any part of the network can contact another part as required. This leads to communication that is relatively open and equal between parties (Figure 7). In the past twenty to thirty years, mass communication theories have been moving closer to the concepts of interpersonal communication.

Figure 7. The network of contacts model of interpersonal communication.⁷



⁷ From Museums and their Visitors (p. 42), by E. Hooper-Greenhill, 1994a, London and New York: Routledge. Copyright 1994 by E. Hooper-Greenhill.

Cyclical Communication Models

Traditionally, the mass communication audience was perceived to be passive. This early notion has been rejected in favor of the idea of an active audience who are decisive, work from their own agendas, and are able to refuse to be communicated to (Hooper-Greenhill, 1994b). Audiences are no longer viewed as large and undifferentiated but rather as smaller groups, each with their own specific set of needs (Hooper-Greenhill, 1994b). Concepts such as target audiences and niche marketing are indicative of this change in thinking.

One of the earliest models that depicted this shift was Cameron's 1968 model. Based on the simple communication model seen in Figure 1, Cameron's version includes the significant addition of a feedback loop. The loop allows the transmitter to modify the transmission and also allows the receiver to verify that the message was received correctly. Figure 8 illustrates the model as applied to the museum setting. In 1970, Knez and Wright expanded this basic model. Arguing that the medium should not be limited to just artifacts, the exhibit itself was used as the medium. This allows for exhibits that rely on verbal symbols as well as objects to deliver the message (Figure 9).

These models have made a significant impact on the way communication in museums is considered. Borun (1977) stated that in order to know whether messages are understood, the museum must provide visitors with feedback channels; this completes the communication process. As will be discussed later, the concept of feedback in the communication system was influential in the

Figure 8. Cameron's model of communication with a feedback loop.
The exhibitor may be the curator, exhibit designer or educator.⁸

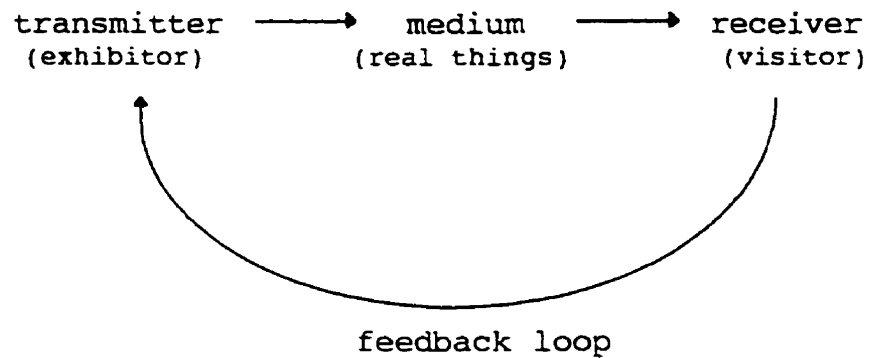
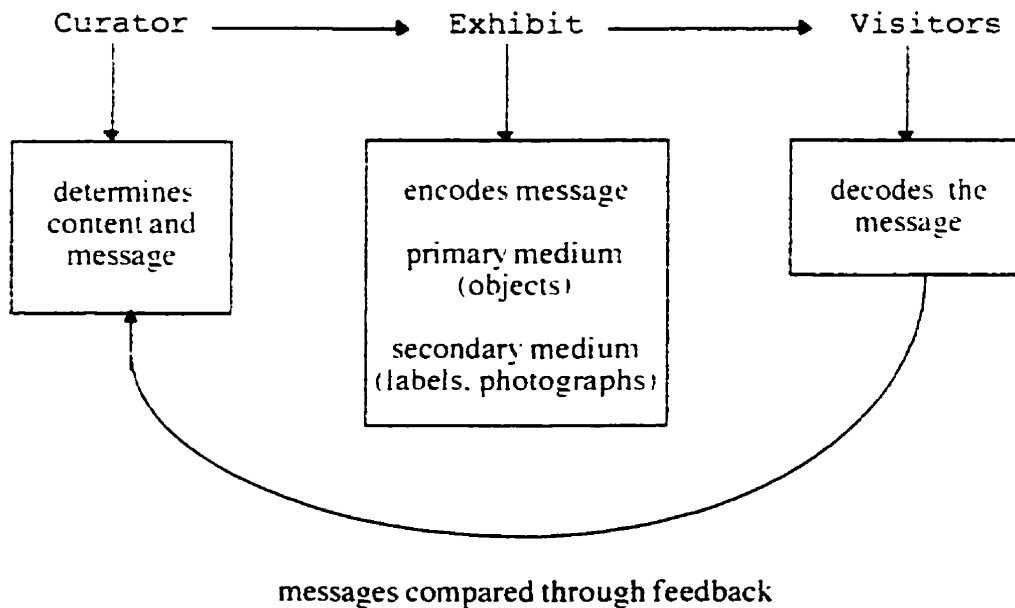


Figure 9. Knez and Wright's communication model.⁹



⁸ From *The Educational Role of the Museum* (p. 23), by E. Hooper-Greenhill (Ed.), 1994b, London and New York: Routledge. Copyright 1994 by E. Hooper Greenhill.

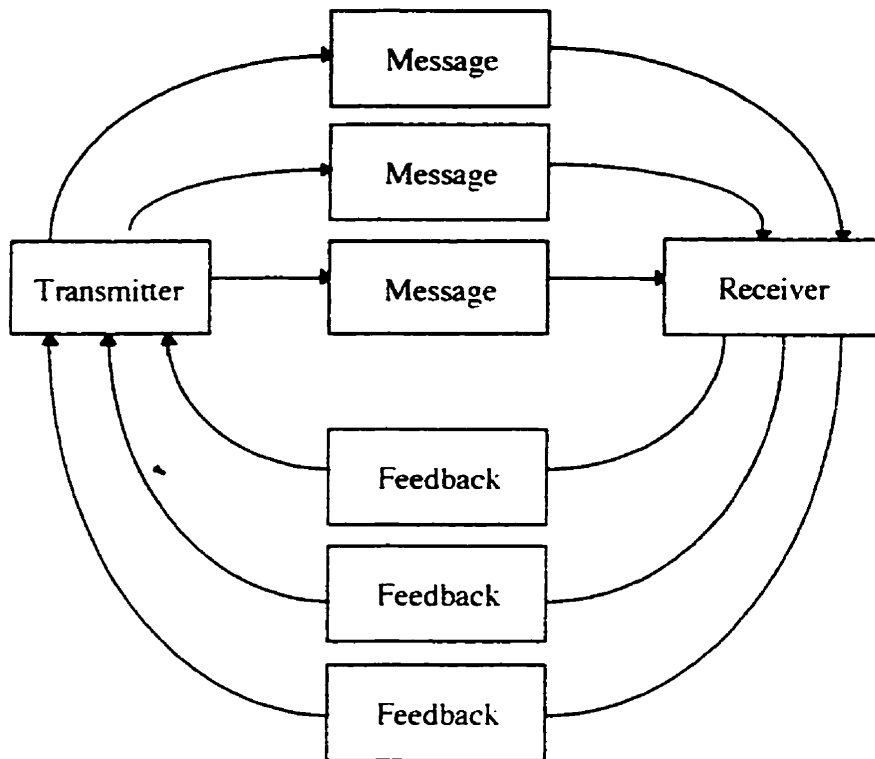
⁹ From *Museums and their Visitors* (p. 47), by E. Hooper-Greenhill, 1994a, London and New York: Routledge. Copyright 1994 by E. Hooper-Greenhill.

development of exhibit planning models. As a means of providing information during the exhibit development process, feedback is often the reason why exhibit evaluation is performed (Griggs, 1984).

Once feedback is introduced into the communication system, the process takes on a dramatically different form. What was once linear becomes circular, as successive feedback loops progressively alter the original message (Hooper-Greenhill, 1994a) (Figure 10). This exchange of messages is, in essence, the negotiation of meaning between sender and receiver (Heath & Bryant, 1992). The more this sharing of meaning occurs, the more likely effective communication will occur (Hooper-Greenhill, 1994a). The process need not begin with the formation of a message; the receiver can be consulted prior to sending messages. This type of front-end research on message content and medium has been used with great success for years in the television and advertising industries (Hooper-Greenhill, 1994a).

The active view of the mass communication audience is central to the most recent theories. Although there has been limited research on museums, studies of other forms of mass media reveal that audiences do take an active role in the communication process. The key concepts in these new theories of communication are the interactivity of the receiver and the de-massification or fragmentation of the mass audience into smaller segments (Hooper-Greenhill, 1994b). In terms of the museum setting, visitors process their experiences in light of the individual and social factors that impinge upon them. The visitor's particular cultural

Figure 10. Successive feedback loops alter the original message.¹⁰

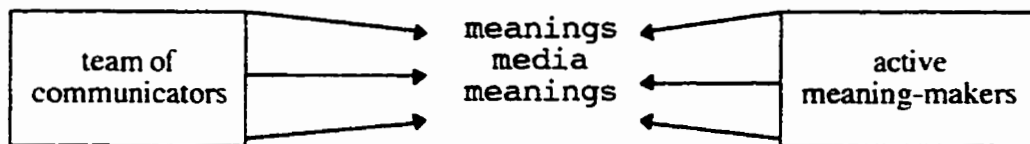


¹⁰ From Museums and their Visitors (p. 45), by E. Hooper-Greenhill, 1994a, London and New York: Routledge. Copyright 1994 by E. Hooper-Greenhill.

assumptions, level of previous knowledge, attitudes, values, and personal agenda for the visit all act to shape the interpretation of the exhibit message. In this way, the visitor actively participates in the production of meaning.

Using this active audience concept, Hooper-Greenhill (1994b) has proposed a new model for museum communication (Figure 11). Instead of a single communicator, a team that represents the interests of the curator, designer, conservator and audience is used. The audience is recognized as an active and equal participant in the manufacturing of meaning. The concept of the medium is expanded to include all the communication media of the museum, from the building, exhibits, people, objects and even the restaurants and washrooms, thus recognizing that all aspects of the museum can impact the visitor's interpretation of the experience. Serving as a middle ground between the senders and receivers, the medium is in a constant state of flux, as meanings are continually defined and redefined.

Figure 11. Hooper-Greenhill's proposed model for museum communication.¹¹



¹¹ From "A New Communication Model for Museums," by E. Hooper-Greenhill, 1994b, in E. Hooper-Greenhill (Ed.), The Educational Role of the Museum, p. 25.

Hooper-Greenhill's model for museum communication mirrors the changes occurring in contemporary society. Post-modernism is characterized by members of society taking greater control over accessing and interpreting information. Through continued feedback and modification of the message, visitors are provided with a channel for questioning the information that is presented to them. The diversity found in our pluralistic culture is also recognized in the model; individuals are seen as having their own set of experiences that act as a filter through which the visitor defines the exhibit. Authors such as Volkert (1991) and Weil (1990) have suggested that a dialogue or two-way system of communication be adopted by museums; Hooper-Greenhill has given the idea form in her model.

Despite the numerous models that have been proposed to describe museum communication, little analysis has actually been done (Hooper-Greenhill, 1994b). Therefore, it is difficult to know what model, if any, forms the basis for museum professionals' activities. An improved understanding of these processes has the potential of leading to more effective communication with visitors, which is a concern of many exhibit planners (Hooper-Greenhill, 1994b).

The Exhibit Planning Process

Top-down model

During the 19th century, exhibit planning was a rather simple process. Objects were selected by a curator and placed in display cases along with identification labels; the entire exhibit could be completed by one person (Miles, 1993a). As exhibit designs became more elaborate and complex during the twentieth century, more people were necessary to execute the tasks involved in preparing exhibits (Miles, 1993a). However, the overall approach to planning exhibits has changed very little.

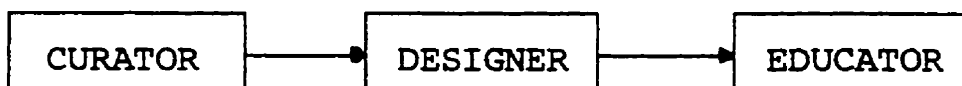
The top-down approach has dominated exhibit planning in the modern museum and is still widely used today (Hooper-Greenhill, 1992; Miles, 1993a). In this system, the curator determines the topic and content for the exhibit. This information is forwarded to the exhibit designer, who presents the ideas in visual form. The educator comes into play after the exhibit is completed, and typically disregards the exhibit text in favor of using the objects to instruct visitors (Hooper-Greenhill, 1992; Miles, 1993a) (see Figure 12).

Critics of the top-down approach have identified numerous problems. As Figure 1 illustrates, the system is unidirectional and does not allow for any feedback (Miles, 1993a). No opportunity for improvement to the system or the exhibits it produces is possible, and suggestions are perceived as challenges to the authority of the experts (Miles, 1993a; Knott & Noble, 1989; Reich, 1988; Shettel, 1988). With this approach, the curator controls the content of the exhibit. Thus, the themes and

topics presented tend to reflect the particular interests of the curator and not necessarily the members of the general public (Hooper-Greenhill, 1992). The museum experts involved in exhibit planning each believe their knowledge to be most important and worthy of emphasis; the visitor is ignored in the process (Knott & Noble, 1989). For this reason, traditionally planned exhibits have tended to attract visitors with demographic profiles similar to most curators: 20 to 44 years of age, professional with post-secondary education and a high income (Hooper-Greenhill, 1992; Williams & Rubenstein, 1993).

The museum staff engaged in top-down exhibit planning often have their own goals that may not coincide with those of the visitor. Curators may be concerned primarily with their scholarly reputation among peers (Linn, 1983; Miles, 1993a). This can influence the selections made by curators as it may be desirable for them to exhibit objects that would be considered rare or valuable to other experts (Linn, 1983). Likewise, exhibit

Figure 12. The top-down approach to exhibit planning.¹²



¹² From "Exhibiting Learning," by R. Miles, 1993a, Museums Journal, 93, p. 27.

designers may strive to impress others with visually pleasing exhibits and in the process overlook the needs of the visitor (Linn, 1983).

The major drawback of the top-down approach is that a division is set up between the private space of the exhibit planners and the public space of the museum visitor. The planning process has traditionally been off limits to members of the public (Hooper-Greenhill, 1992). As a result, visitors are not only ignorant of the work performed curators and designers, but they are also provided with no channel for communicating their needs to the planners (Hooper-Greenhill, 1992; Linn, 1983). The only evidence of feedback visitors may give is through reduced attendance, and this may have little direct impact on the decisions made during exhibit planning (Linn, 1983). No opportunity is given to visitors to contribute positive feedback in this system.

Despite being the primary consumers of exhibit programs, feedback from visitors has not traditionally been solicited (Linn, 1983; Knott, 1992). Screven (1993a) observes that visitors are not well understood by exhibit planners. This limited knowledge about visitors' interests, motivations, preconceptions and learning capabilities has lead to exhibits that mislead and confuse the majority of visitors (Screven, 1993a). Curators have tended to rely on their own assumptions, and sometimes misconceptions, about visitors when making exhibit planning decisions (Knott & Noble, 1989; Rubenstein, 1990; Screven, 1993a). Alternatively, exhibit planners also rely on the advice of other

specialists (McManus & Miles, 1993; Reich, 1988). Exhibit planners' perception of the public tends to be inaccurately influenced by contact with other researchers, scholars and museum staff as a result of the separation of curators from the public in museums (Screven, 1993b). Additionally, curators usually have a limited background in education, and particularly with the issues related to learning in the museum setting (Screven, 1993a; 1993b). The top-down model brings educators into the process too late for their expertise to be used in planning decisions (Hooper-Greenhill, 1992; Miles, 1993a). If planners have accurate information about the needs of their visitors, the resulting exhibits are more effective educationally (Miles, 1993a; Screven, 1993a).

In summary, the top-down approach to exhibit planning is a closed, unidirectional system in which the exhibit visitor goes largely unconsidered. The exhibits produced using this method tend to be educationally ineffective and confusing for most lay visitors (Miles, 1993a; Screven, 1993b). Without a formal background in communication or education, curators and designers are not necessarily well versed in the needs of visitors; the scholarly approach often used when planning exhibits reflects the curator's perspective and not that of the visitor (Screven, 1993b). The lack of feedback in the system limits the top-down model from resolving these problems.

Evaluation and Exhibit Planning

Evaluation has been identified in the literature as an effective way of introducing feedback from visitors into the exhibit planning system, thus overcoming some of the limitations of the traditional top-down approach. Since the 1970's, increasing emphasis has been placed on the educational value of museums and the need to communicate effectively with the public (Ames, 1993; Williams & Rubenstein, 1993). This, coupled with demands to be accountable for the expenditure of public funds has served as the impetus for conducting evaluation in museums (Hein, 1994; Williams & Rubenstein, 1993). Evaluation has become a more frequent topic for museological research, publications and conferences, possibly signaling a movement toward including the visitor in the exhibit planning process (Loomis, 1988; Screven, 1993b; Williams & Rubenstein, 1993).

In the general sense, evaluation refers to the process of applying value judgments to a product or program with respect to how well its goals have been achieved (Smith & Glass, 1987; Touliatos & Comptom, 1988). Judgments are based on criteria such as effectiveness, efficiency, fairness, acceptability and aesthetics. Whereas formal research may be undertaken to test hypotheses, build theories or add to the knowledge base, evaluation seeks findings that are practical and assist in decision making (Selltiz, Wrightsman & Cook, 1981).

Within the context of the museum, exhibit evaluation refers to the systematic assessment of the value of an exhibit in terms of meeting its defined educational goals (Screven, 1976). It is

the process of obtaining data about museum audiences that will contribute to the decisions made during the planning of educational exhibits (Munley, 1986; Screven, 1976, 1993b). Exhibit evaluation can be subdivided into four different types based on the stage at which it occurs during exhibit planning: front-end, formative, summative and remedial.

Front-end evaluation is the exploration of the interests, attitudes, misconceptions, and level of pre-knowledge of potential museum visitors. Performed at the beginning of exhibit planning, it is intended to identify problem areas of exhibits before the detailed planning begins (Bitgood, 1990; Hooper-Greenhill, 1994a; Screven, 1993b). Formative evaluation involves testing ideas and exhibit components that are in production and observing visitors' reactions to exhibit mock-ups (Hooper-Greenhill, 1994a; Screven, 1993b). Summative evaluation is conducted after an exhibit has been installed and opened to evaluate its overall impact (Screven, 1993b). Remedial evaluation is the use of formative evaluation to make improvements to installed exhibits (Screven, 1993b). In the past ten years, more emphasis has been placed on front end and formative evaluation as these are considered generally more useful for exhibit planning than summative evaluation (Hooper-Greenhill, 1994a; Williams & Rubenstein, 1993).

The methods described thus far involve the assessment of exhibits against some predefined goal or goals. For this reason, evaluation of this type is referred to as goal referenced (Screven, 1976). Evaluation of museum visitors has tended to focus on the goals of the museum, with few researchers

acknowledging the goals of the visitor. Some have noted a discrepancy between the objectives of exhibit planners and those of the visitor. Miles observes that curators tend to emphasize education, while visitors may be more concerned with enjoyment and social interactions (Hicks, 1986). Program goals are seldom established with input from the visitors whom the program is intended to serve (Knott, 1992). Typically, goals are established by program developers, educators, curators or designers, who may have little appreciation or knowledge of visitor needs (Scriven, 1993a). Among museum staff, goals pertaining to exhibits and evaluation can vary considerably; some may be concerned about attendance figures while others are interested in the aesthetic appeal or educational effects of the exhibit (Linn, 1983).

Most evaluators determine whether goals are met, but do not consider the value of the goal itself to the visitor. Goals are not often evaluated, particularly those pertaining to the casual adult visitor (Knott, 1992). However, an exhibit is not necessarily effective if it meets the goals established by museum staff; it is effective when it also meets the visitors' needs (Knott, 1992). The agenda of museum visitors is not necessarily the same as exhibit planners (Weil, 1990). For this reason, evaluation of exhibits with respect to visitors' goals is considered by some to be an essential step toward developing exhibits that are effective from the perspective of the visitor (Hicks, 1986; Munley, 1986).

An alternative to goal-based evaluation was proposed by Scriven in 1976. Goal free evaluation focuses on the program

effects rather than stated program goals (Knott, 1992). Patterns of visitor behavior are analyzed and used to form hypotheses, which are particularly useful for obtaining evidence of unanticipated effects (Stanton, 1995). This form of evaluation avoids the shortcomings of goal-based evaluation in that staff goals do not interfere with the assessment of the exhibit's effectiveness. However, from the paucity of references to goal free evaluation in the literature, it appears to be a comparatively rarely practiced form of evaluation.

The addition of evaluation to the exhibit planning process can be beneficial for museums and visitors. By providing planners with information about the interests, preconceptions, preferences and limitations of potential visitors, evaluation can be used to develop and improve the messages that are to be communicated through the exhibit (Rubenstein, 1988; Screven, 1993a). Mistakes and misunderstandings can be brought to light before the exhibit opens to the public (Knott & Noble, 1989). With regard to increasing attendance, evaluation can be used to investigate why visitors do not attend exhibits and what needs have not been met in the past (Loomis, 1988; Rubenstein, 1988). This allows the museum to make improvements to exhibits that may in turn increase first time attendance, repeat visits, word of mouth publicity and public relations (Donahoe, 1988; Everett, 1988; Knott, 1992). Miles (1993b) has noted that the more that is known about museum visitors, the better the museum can plan exhibits that meet their needs and provide a setting that fosters learning.

Despite gaining credence and wider acceptance since the 1980's, evaluation has failed to become the standard practice during exhibit planning (McManus & Miles, 1993, Williams & Rubenstein, 1993; Stanton, 1995). Shettel (1988) estimates that less than one percent of museum exhibits are developed with input from evaluation. Numerous factors that influence the adoption of evaluation have been identified.

The definition of evaluation is a source of confusion in this issue. As it is most commonly practiced, evaluation is defined as self-review or self-analysis (Hicks, 1986; Munley, 1986). In this instance, an evaluation would only consider exhibits and programs from the staff's point of view to determine whether quality and standards are being met (Munley, 1986). However, evaluation that includes input from visitors is far less common (Munley, 1986; Shettel, 1988).

Museums experience very little external pressure to change the way exhibits are currently developed. If an exhibit demonstrates a high level of workmanship, achieves an adequate attendance level and gains the approval of peers within the museum community, it is considered to be a success (Knott & Noble, 1989; Shettel, 1988). Visitors can essentially be ignored with impunity since they do not constitute an organized group that overtly demands their needs be met (Linn, 1983; Shettel, 1988). If an exhibit is confusing, the visitor tends to blame themselves for not understanding rather than bring this to the attention of museum staff (Shettel, 1988). Visitors simply do not return to museums for repeat visits if their needs are not met (Knott, 1992;

Linn, 1983; Shettel, 1988). Furthermore, exhibit planners generally presume that they know what visitors need and see evaluation as unnecessary (Knott & Noble, 1989). By not receiving feedback through evaluation, the problems with the current exhibit planning process go unrecognized by the museum.

One significant barrier to the implementation of evaluation is the perceived threat it poses to museum staff members. There is reluctance to expose oneself to criticism or to find out that an exhibit is not working (Knott & Noble, 1989; Reich 1988). Additionally, evaluation may be seen as a challenge to professional judgments (Miles, 1993a; Stanton, 1995). By giving visitors a voice in the exhibit planning process, power is taken away from exhibit planners and their professional credentials are rendered less significant (Gaulding & Weissman, 1992; Hooper-Greenhill, 1992; Shettel, 1988).

The conservatism inherent in institutions such as museums impedes the implementation of evaluation. Museums tend to be resistant to change; the existing practices are seen as the only possible ones (Hooper-Greenhill, 1992; Reich, 1988). Evaluation is disruptive in the sense that it alters the normal way of doing exhibits and alters the roles of staff in relation to visitors during the exhibit planning process (Shettel, 1988). The inflexibility found in many museums opposes such disruptions to the status quo.

The lack of people qualified to conduct exhibit evaluation poses another problem for museums (Knott & Noble, 1989). In the United States and Canada, very few museum studies programs teach

evaluation methods, although workshops covering this subject are on the rise (Shettel, 1988). Professional development programs offered by Canadian museum associations still tend to focus on exhibit design and production rather than evaluative techniques (La Societe des Musees Quebecois, 1997; W. Molnar, personal communication, November 2, 1997; Ontario Museum Association, 1997). Inadequate understanding of the evaluation process can lead to the inappropriate use of evaluation instruments and the collection of unreliable data (Knott & Noble, 1989; McManus & Miles, 1993). Evaluation studies of dubious quality discourage other museums from undertaking evaluation and feed the perception that evaluation is unnecessary and a waste of resources (McManus & Miles, 1993).

Evaluation places demands on the museum's time and money (Knott & Noble, 1989; Reich, 1988). Bitgood & Carnes (1987) report that among museum employees who are not directors, 44% feel that staff members do not have time to engage in evaluation. Beyond the evaluation process itself, the changes that may be required in response to the results obtained can incur further costs (Knott & Noble, 1989). With budget restraints and limited staff resources, museums are reluctant to undertake evaluation, despite the claims that it may improve attendance and, therefore, revenue.

Over the past decade, exhibit planning has become intertwined with educational goals, at least in theory (Screven, 1993b). Evaluation has been identified as a way to improve communication with the visitor and positively influence educational

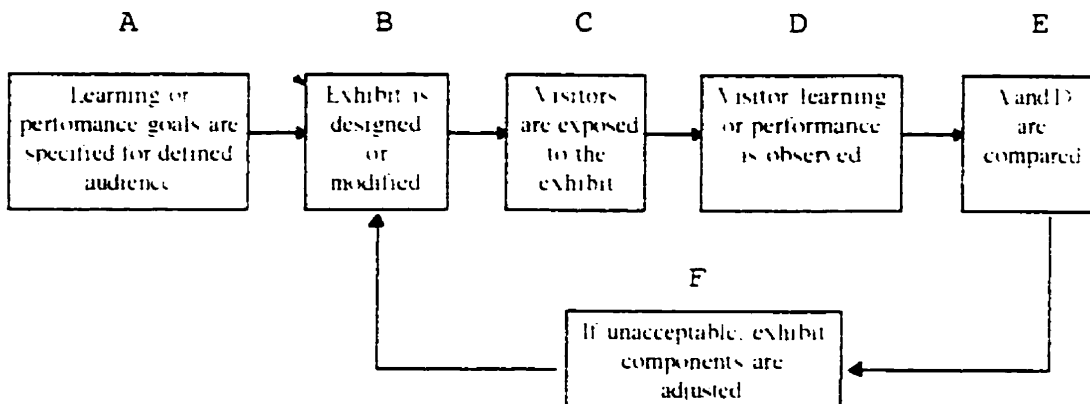
effectiveness, but in practice the exhibit planning process remains more or less isolated from the public (Screven, 1993b). However, the use of evaluation, particularly formative, appears to be increasing (Hein, 1994; Knott, 1992). Loomis (1988) notes that visitor research is a growing field of study with an increasing number of conferences and journals dedicated to the topic. As interest in the area grows, some new models for exhibit planning that incorporate evaluation have emerged.

Exhibit Planning Models Incorporating Evaluation

Goal-referenced evaluation model. Screven's (1976) classic model linked the processes of evaluation and exhibit planning together. As the name suggests, it stresses the need to define clear objectives, and success is based on the exhibit's ability to meet the objectives. The curator or designer first defines the goals of the exhibit in terms of the cognitive, affective and/or sensory motor outcomes expected after visitors are exposed to the exhibit (Figure 13). The exhibit is designed and constructed with these in mind, and visitors are exposed to the completed exhibit. Goals are limited to cognitive, affective and sensory-motor outcomes, thus ignoring other goals that the visitor may have. Visitor learning or performance is assessed using pre- and post-tests. If the outcomes demonstrated by visitors reflect the predefined objectives, the exhibit is successful. If not, modifications are made to the exhibit and the evaluation process is repeated until the goals are satisfactorily achieved.

The Screven model has some limitations. It does allow for feedback from visitors, but only with regard to the specific learning and performance objectives. The goals used in the planning and evaluation are defined in terms of what the curator or designer expects the exhibit to achieve; input from visitors is not considered during the initial stages of the process.

Figure 13. The goal-referenced evaluation model.¹³



Bitgood's model of exhibit and program evaluation. According to Bitgood (1990), evaluation is most effective when it is incorporated into the development process at every stage. If inputs from both visitors and professionals are combined during

¹³ From "Exhibit Evaluation - A Goal-Referenced Approach," by C.G. Screven, 1976, Curator, 19, p. 274.

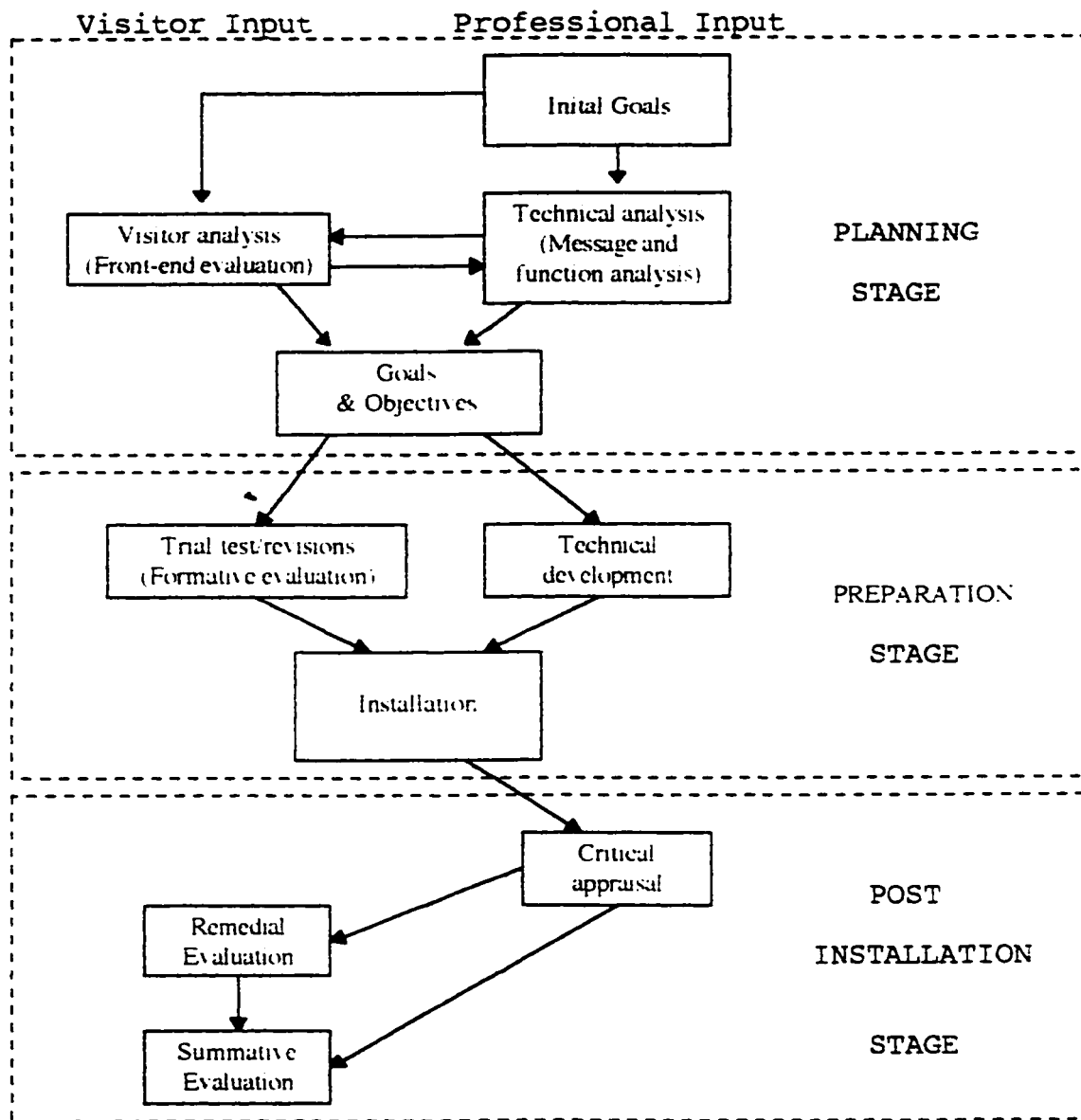
the process, there is a greater chance of producing an effective exhibit.

Bitgood divides the exhibit planning process into three stages: the planning stage, the preparation stage, and the post installation stage (Figure 14). During the planning stage, front-end evaluation is used to determine visitors' interests, attitudes, misconceptions and level of pre-knowledge. This input from visitors helps to assure that the exhibit delivers a message that is both interesting and at the right level of understanding. Input from museum staff at this stage is referred to as technical analysis, or planning of the educational message. The information from both the visitors and the professionals are combined to derive the goals and objectives of the exhibit.

With the goals and objectives defined, the process moves into the preparation stage. The staff explores various technical elements, such as communication media and exhibit hardware, through tests with visitors. This formative evaluation allows the staff to make revisions before the final exhibit is constructed and installed.

Three types of assessment are possible during the final post-installation stage. Critical appraisal does not involve visitors but rather draws information through professional consultation and aims to identify obvious or suspected problems. Remedial evaluation, like formative evaluation, trial tests exhibit components with visitors in order to make improvements to the exhibit, but it occurs after the exhibit is installed. Summative

evaluation also uses visitor input, but it is conducted to assess Figure 14. Bitgood's exhibit/program evaluation model.¹⁴



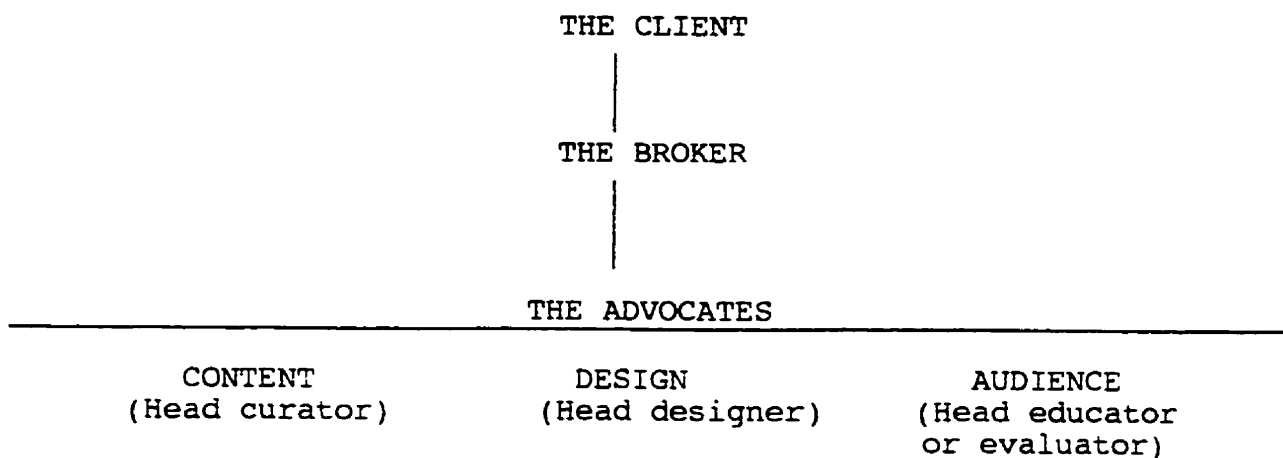
¹⁴ From "Introduction: Visitor Studies in 1990," by S. Bitgood, 1990, in S. Bitgood, A. Benefield, & D. Patterson (Eds.), Visitor Studies: Theory, Research, and Practice, Vol. 3. Proceedings of the 1990 Visitor Studies Conference. p. 15.

the accomplishment of the original objectives; it is not associated with immediate plans for making modifications.

This model has a number of advantages over the goal-referenced model. It emphasizes visitor input at every stage of the exhibit planning process. In particular, it utilizes information from both the staff and visitors during the critical goal defining stage of the process.

The Smithsonian system. Originally developed at the Boston Children's Museum by Gurian, this model was later introduced to the Smithsonian Institute (Miles, 1993a). In this team approach to exhibit planning, the museum staff members are defined in terms of the role they play in the planning process. The Client, often the museum director, commissions the exhibit, determines policies, sets deadlines and acts as the final arbiter (see Figure 15). The Broker, or project manager, controls the finances, ensures deadlines are met, and resolves conflicts between the advocacies. The Advocates, or developers, contribute the skills of their individual disciplines, but also foster cooperation among other team members. The Audience, or visitor, is given equal importance as the designer and curator in this model. However, the visitor does not have any means of providing input into the system at the higher decision-making levels controlled by the client and broker.

Figure 15. The Smithsonian system.¹⁵



¹⁵ From "Too Many Cooks Boil the Wrath - Exhibits, Teams, Evaluation," by R.S. Miles, 1993b, in D. Thompson, A. Benefield, S. Bitgood, H. Shettel, & R. Williams (Eds.), Visitor Studies: Theory, Research, and Practice, Vol. 5. Collected Papers from the 1992 Visitor Studies Conference, St. Louis, Missouri, p. 68.

Birch's theatrical approach to exhibit planning. In 1982, Birch proposed that exhibit planning and development follow a less linear system that is modeled after the activities involved in mounting a theatrical play. These activities follow a sequence, but overlap and interact:

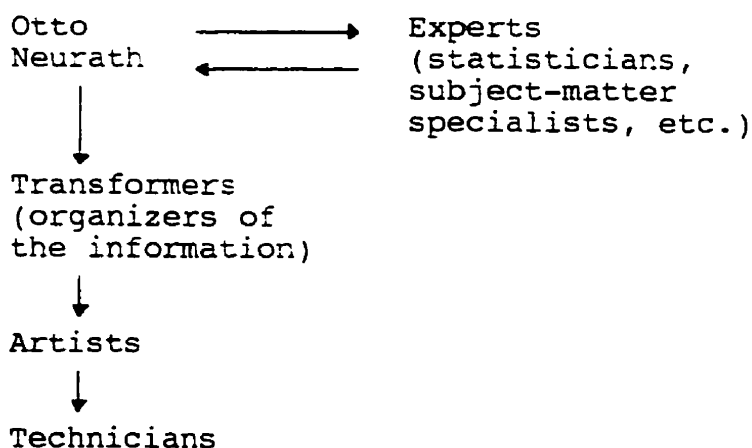
1. play is selected;
2. preliminary discussions among director, set designer and technical crews;
3. set design begins;
4. play is blocked and rehearsals begin;
5. set construction begins;
6. rehearsals, set construction and technical staging proceed together, each modifying and being modified by the others; and
7. dress rehearsal and opening night.

(Birch, 1982, p.27).

Besides the exclusion of the audience/visitor from the planning process, Birch's model overlooks the significant differences between theatrical and exhibit production. Theater is labor intensive and has considerable flexibility of action throughout the process; exhibits are only labor intensive at particular stages of production and their physical form does not allow for the sort of flexibility seen in theatrical productions (Miles, 1993b).

Otto Neurath's exhibit production system. This system, devised and used by Neurath from 1924 to 1934 at the Social and Economic Museum in Vienna, is the forerunner of a system presently employed by London's Natural History Museum (Miles, 1993b). At the time of its inception, the Vienna museum had a small staff that worked under the direction of Neurath (see Figure 16). Subject-matter specialists provided information to Neurath, and the transformers converted this into a form that was suitable for the lay visitor. In this way, the transformers act as advocates of the visitor (Miles, 1993a). However, this system does not include any direct input from visitors and relies solely on the transformers' knowledge of visitor needs.

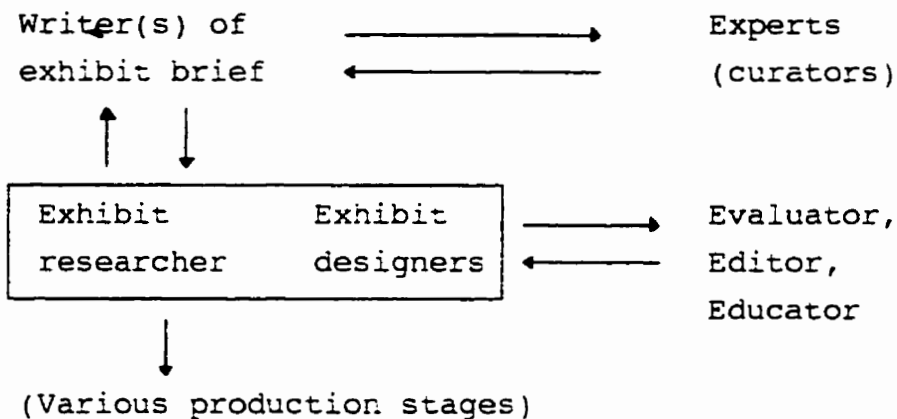
Figure 16. Neurath's system for producing exhibits.¹⁰



¹⁰ From "Too Many Cooks Boil the Wrath - Exhibits, Teams, Evaluation," by R.S. Miles, 1993b, in D. Thompson, A. Benfield, S. Bitgood, H. Shettel, & R. Williams (Eds.), Visitor Studies: Theory, Research, and Practice, Vol. 5. Collected Papers from the 1992 Visitor Studies Conference, St. Louis, Missouri, p. 69.

The London System. Neurath's system was adapted in 1975 to serve the larger needs of the Natural History Museum in London (Miles, 1993b). This system centers around the exhibit brief, a document which guides the project and its management. It includes the goals, story-line and the results of front-end and summative evaluation (see Figure 17).

Figure 17. The London system for developing educational exhibits.¹⁷



¹⁷ From "Exhibiting Learning," by R. Miles, 1993a, Museums Journal, 93, p. 27.

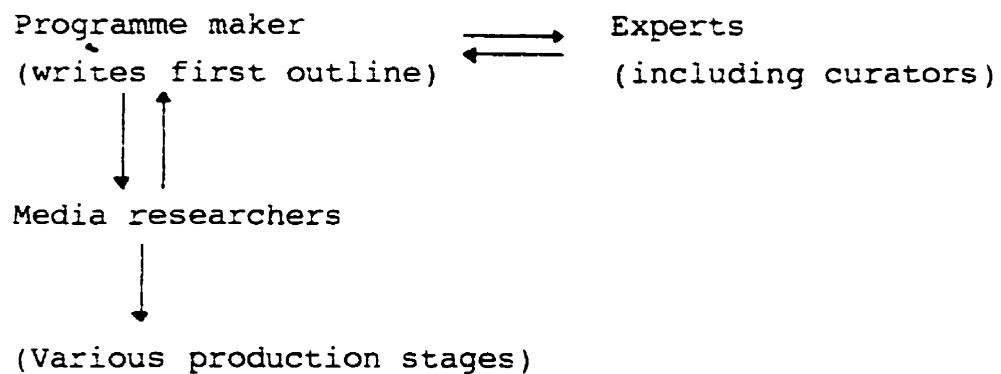
The writer of the brief is a senior member of the exhibition team, but not a curator; the team is headed by a professional exhibit-maker, thus allowing curators to focus on their areas of specialized knowledge (Miles, 1993a). It is the responsibility of the exhibit-maker to ensure the team meets deadlines and stays focused; this is similar to the broker or project manager role in the Smithsonian system. The exhibit researchers and designers act as the transformers in this system. With input about visitors from educators and evaluators, the information from the experts is changed to a form that is understandable and interesting for the lay person (Miles, 1993b).

The London system uses a multidirectional approach to exhibit planning. This offers some of the flexibility that is central to Birch's model, but maintains the structure necessary for exhibit development. The London system is similar in format to one used for producing scientific television programs (Miles, 1993a) (see Figure 18). Because these television programs bear a resemblance to exhibits in that educational information is presented in a stimulating and entertaining manner, it seems to serve as a better foundation for an exhibit planning model than the system used in theatrical production.

All members of the exhibit team provide input for the exhibit brief. The visitor is included as part of the team via the educators and evaluators, who act as advocates on the visitor's behalf. Screven (1993b) suggested not only that exhibit planning responsibilities be shifted away from curators

and designers and toward evaluators and educators, but also that communications specialists be used to translate messages for visitors. The London system incorporates these ideas. In addition, the system places emphasis on formative rather than summative evaluation, thus reflecting the trend observed by Knott (1992), Hooper-Greenhill (1994a), and Williams and Rubenstein (1993).

Figure 18. A system of producing scientific television programs.¹⁸



¹⁸ From "Exhibiting Learning," by R. Miles, 1993a, Museums Journal, 93, p. 28.

Stanton's cyclic evaluation model. Like Bitgood's model, the cyclic evaluation model incorporates evaluation at every stage of the exhibit planning and development process (Stanton, 1995). The process is divided into four stages, and entry into the model can occur at any of these:

- I. Development of new exhibition
- II. Summative study
- III. Synthesis stage
- IV. Documentation and dissemination.

In stage I, the process begins with the establishment of a project goal. Front-end evaluation is then undertaken to help formulate the specific exhibition objectives. The exhibit storyline, content and design are developed by the team members, and the concepts are tested through formative evaluation. Modifications to the initial plans are made, and once the exhibit opens it is assessed through either professional critique or remedial evaluation. Further modifications are then made to the final exhibit. Stanton acknowledges that once exhibits are installed, few changes are usually made due to the pressure to move on to other projects as well as the additional costs for refabrication.

Stage II encompasses studies made of exhibits after installation. This can take three forms. Objective-based evaluation examines the extent to which objectives were met. Issue-oriented evaluation involves the testing of hypotheses to determine their validity. An example would be investigating

whether primary colors in exhibits are conducive to vandalism. Issue-free evaluation has no specific focus but rather looks for patterns in visitor behavior; this is then used to form a hypothesis that could later be tested during issues-oriented evaluation. The equivalent of Scriven's goal free evaluation, this method is particularly useful for discovering unintended effects.

The third, or synthesis, stage involves the comparison of evaluation findings to those found in the literature for the purpose of formulating new hypotheses and theories. This leads to the fourth stage, documentation and dissemination, in which relevant findings are communicated to the museum profession. The output from this stage can in turn be used to develop new exhibits, and the cycle starts anew.

Stanton's model offers a complete scheme for evaluation in the museum context. However, the first stage is the only one that deals directly with the exhibit planning and development process. Moreover, this initial stage is virtually the same as Bitgood's model and lacks any significant characteristics that could be used to distinguish it.

Exhibit planning in the contemporary museum

The models of exhibit planning reflect changes in the way the visitor's role is considered. Whereas knowledge of the object was of paramount importance during exhibit planning traditionally, knowledge of the audience is now coming to be perceived as equally important (Hooper-Greenhill, 1992). Societal changes,

particularly those described as post-modernism, are becoming integrated into museological theory, and to some degree, practice.

In some museums, the curator has become decentered and is no longer viewed as the sole authority over interpretation (Hooper-Greenhill, 1992). The consideration of multiple points of view and the contribution of visitors' ideas for exhibits are encouraged (Hooper-Greenhill, 1992; Volkert, 1991). According to proponents of this concept, the inherent biases of the exhibit developers should be acknowledged and called into question by members of the public (Volkert, 1991).

Concurrently, the emergence of a curatorial consciousness has impacted the exhibit planning process (Hooper-Greenhill, 1992). Previously marginalized groups, such as women, homosexuals and the disabled, have been gaining the recognition of museums. The result has been exhibits that address the issues and needs of particular societal groups (Hooper-Greenhill, 1992). In some cases, such as the Royal Ontario Museum's 1992 aboriginal exhibit, the group may take a direct hand in shaping the content of the exhibit (Middleton & Walsh, 1995).

According to Hooper-Greenhill (1992), the traditionally closed system of the museum is transforming into one that is more open. The barriers dividing private and public space in the museum are breaking down and the visitor is allowed greater access to formerly restricted information. Some authors have stated that it is now the museum's responsibility to let the public know how exhibits are developed and contexts defined, thereby demystifying these processes (Volkert 1991). In practice, many museums hold

open days during which members of the public are invited behind the scenes (Mann, 1988; Hooper-Greenhill, 1992). Visual or open storage is another increasingly common technique for allowing visitors access to information and artifacts that previously fell within the curator's domain (Hooper-Greenhill, 1992).

The changes in museological theory and practice have given rise to a new movement known as the ecomuseum or new museology. Espousing ideas such as the active participation of the public in all museum processes, including interpretation and exhibition, the movement calls for a democratization of the museum (Walsh, 1992). Williams and Rubenstein (1993) have observed that, in general, museums have become more democratic places, but note that the rate and degree of change varies widely. Certainly, the way in which the role of visitor is perceived during exhibit planning has changed, and the exhibit planning models that have evolved over the past twenty years are indicative of this. However, documentation of the extent to which these theories and philosophies have been put into practice is scant.

CHAPTER THREE

Computer Networks

A review of the published literature revealed that evidence of visitor inclusion during the exhibit planning process is lacking, despite a growing number of proposed models and arguments in support of this approach. Clearly, there is a need to determine how the visitor is considered by exhibit planners and whether the new conceptual models for exhibit planning mirror current practices.

Since a previously developed instrument to investigate the objectives of this study did not exist, the research conducted was exploratory in nature. The emergence of new communication technologies and corresponding data collection techniques in recent years provided a non-traditional means of conducting this exploration. However, prior to addressing the methodology used in the study, this chapter is included to provide a brief explanation of computer network and electronic mail systems, followed by an assessment of the utility of electronic mail for conducting social research.

The Growth of Electronic Mail Usage

The proliferation of electronic mail and Internet usage in recent years has been immeasurable. Estimates place the number of Internet users internationally at approximately 15 million with a growth rate of 10% per month (Mehta & Sivadas, 1995). The number of electronic mail users is even larger; recent estimates range from 27.5 to 30 million (Mehta & Sivadas, 1995; Sterne, 1996). By

the year 2000, it is expected that over 100 million people worldwide will have access to the Internet (Mehta & Sivadas, 1995).

Initially, the Internet was developed for academics to exchange research information and ideas (Coursey, 1991). As the scope of users broadens to include those who are not in traditional university settings, the Internet provides many new opportunities for academic researchers. In particular, the emergence of data collection from on-line subjects via electronic mail (e-mail) is a growing area of interest. Although it has its own set of limitations, e-mail has been found to have some advantages over other means of collecting data.

Definitions

Throughout the following discussion, specialized terminology relating to computer networks and electronic mail are used. For clarification, definitions of these terms are given below.

Electronic forum: comprises newsgroups and list servers (Baillie, 1996).

Newsgroup: a Usenet discussion group, or collection of messages, that pertains to a particular topic. Newsgroups are organized by hierarchy and can be accessed by the Internet or through Usenet (Cohen, 1996; Corbett, 1996). Replies to postings can be addressed to the author personally or posted to the newsgroup so all subscribers of the newsgroup can have access (Baillie, 1996).

Newsgroups are also commonly referred to as electronic bulletin board systems or BBS's (Hayes & Sabir, 1995).

List server: an electronic mailing list in which information is sent by subscribers to a server or central electronic mailbox. The information is then redistributed to all the subscribers of the list (Notess, 1993).

Posting: a message entered into an electronic forum (Cohen, 1996).

Subscriber: a person who has voluntarily joined an electronic forum.

Usenet: a system that links electronic bulletin board systems or newsgroups (Corbett, 1996).

Hierarchy: general categories that loosely organize the newsgroups. These hierarchies appear as part of the newsgroup's multipart name, separated by periods, such as "rec.sport.hockey". Examples of hierarchies are alt. (alternative), bit. (BITNET), biz. (commercial), misc. (miscellaneous discussions) and rec. (hobbies and recreational activities) (Cohen, 1996; Notess, 1993; Parks & Floyd, 1996).

Newsreader: software that enables the user to subscribe, terminate the subscription, read messages and post messages in Usenet discussion groups (Cohen, 1996).

Server: "a computer and its associated hardware and software applications that act as a repository for information files or software programs" (December, 1996, p. 21).

Client: software that is used to receive information sent by a server (December, 1996).

Computer Networks and Electronic Forums

Computer networks, such as the Internet, are systems of exchanging information between computer users. Through the transfer of data by means of various schemes, networks enable users to communicate across geographic and time boundaries. The increasing use of the Internet has led to the proliferation of electronic forums dedicated to a broad range of topics. Within the museum field, the electronic forum has emerged as a way for museum professionals to communicate with each other using computer networks.

The Internet is arguably the most widely recognized computer network in the world today (Coursey, 1991; December, 1996). However, misconceptions regarding what it is and how it works abound. Although it is often thought of as a single network, the Internet is actually a large network of smaller networks that are globally distributed (Coursey, 1991; December, 1996; Fisher,

1991). These networks share the same data communication protocol, or set of rules for exchanging information (December, 1996; Fisher, 1991). For the Internet, the Transmission Control Protocol/Internet Protocol (TCP/IP protocol suite) integrate services such as electronic mail, file transfer and remote log in (December, 1996). It is important to realize that smaller networks or internets may use the TCP/IP protocol suite, but unless these networks are connected to the larger global network, services such e-mail are limited by the boundaries of the small network (December, 1996).

The Internet is not the only global computer network. Using different protocols, these other networks are still able to exchange data with the Internet through gateways. The flow of information through these gateways allows non-Internet users to exchange e-mail with Internet users. The collection of worldwide networks that exchange e-mail is known as the Matrix (December, 1996). An important distinction here is that users of electronic mail are not necessarily Internet users; these users may not have access to other Internet services. Likewise, they may have access to services which Internet users do not have (December, 1996). Examples of non-Internet global networks are commercial services, such as CompuServe, America On-line, Delphi and Prodigy, or academic networks such as BITNET (December, 1996; Notess, 1993).

At the heart of all computer networks is the transmission of information or messages from senders to receivers. This process can be achieved through a variety of schemes (December, 1996). In point to point distribution, a single user sends a message to a

single receiver; electronic mail is an example of this. Point to multipoint distribution involves a single user sending a message to a number of specific receivers. The most common way of achieving this is by sending the message to a mail exploder, a software application program that distributes the message to multiple receivers. Listservers or electronic mailing lists use this form of dissemination.

A more complex scheme is the point to server broadcasts, which can take two forms. In both cases, a single user sends a message to a server. The server may make the message available to anyone who has the appropriate client software to access the server, as in Internet Relay Chat (IRC) or chat groups. Alternatively, the server may broadcast the incoming message to one or more other servers in a message propagation scheme. This is the process utilized by USENET, the network that links newsgroups. The secondary servers receive a news feed consisting of all the USENET newsgroups or designated subsets; these are stored by the server and can be accessed by local users using client software known as a newsreader (December, 1996; Notess, 1993).

Internet websites employ a different scheme. In server broadcast distribution, the server contains stored information that is available to any user that has the appropriate client software, that is an application known as an Internet browser. This allows users to observe the information anonymously (December, 1996). By contrast, in a server narrowcast, the server

provides the information to only a specified set of authorized users (December, 1996).

The fundamental difference between electronic forums, namely list servers and newsgroups, is evident from these distribution schemes. Although both originate with a message sent from a single user, the dissemination of the message is handled quite differently. List servers are designed to send all these messages to users' personal electronic mailboxes; thus, the messages are mixed together with the recipient's other personal mail (Notess, 1993; Resnick, 1994). Newsgroups, on the other hand, are more like bulletin boards in that users must check periodically for new postings.

List servers and newsgroups also have similarities. Each require users to subscribe to the group in order to receive the messages. Both cover a broad range of topics. Additionally, users of either forum are able to read and reply to the postings at a time that is convenient; therefore, the communication between sender and receiver is not limited to real time interactions. The boundary between newsgroups and list servers is becoming less distinct as some of the mailing lists are echoed by newsgroups. Essentially, this means that the messages distributed to the mailing list subscribers are simultaneously posted on an electronic bulletin board; this allows users to access the information in the way that best suits their needs (Notess, 1993).

Computer Mediated Data Collection

Computers have been used in the collection of data for over two decades (Rosenfeld, Doherty, Vicino, Kantor, & Greaves, 1989). Research in the field of clinical psychology determined that assessment instruments administered using computers gave not only comparable findings to those administered by paper and pencil, but also yielded more truthful responses in sensitive areas such as alcohol consumption (Rosenfeld, et al., 1989). Computer assessment has become more popular for non-clinical applications since the 1960's, but it is only recently that researchers in social, behavioral and management sciences have started to use computer technology to administer surveys and questionnaires (Rosenfeld, et al., 1989).

Despite this steadily growing interest in using computers, very few studies have evaluated the use of newer information technologies, such as computer networks, for data collection (Mehta & Sivadas, 1995). As access to computer networks and e-mail becomes more pervasive, using these channels of communication to elicit survey respondents holds a great deal of potential. Some authors predict that the electronic survey may become more widespread since it offers a relatively low cost and highly flexible means of conducting research (Kiesler & Sproull, 1986; Walsh, Kiesler, Sproull, & Hesse, 1992). As with any data collection method, the electronic survey has both advantages and disadvantages that determine its applicability to a particular research project.

The demographic profile of computer network users poses some concerns for researchers interested in collecting data using computer network surveys. This is mainly because computer network users do not reflect the larger society. Since factors such as socioeconomic status, age, experience and access to computers play a role in determining who uses electronic mail, these users may not be representative of the general population (Mehta & Sivadas, 1995).

Lefton (1993) observes that the median income and education of e-mail users in the United States are well above average. Those who have access to and familiarity with computers and computer networks tend to be well educated, urban, white collar and technically sophisticated (Kiesler & Sproull, 1986). Statistical evidence regarding Internet usage also supports this. A 1995 Neilsen Media Research survey of 4,200 people from Canada and the United States determined that males represent 66% of Internet users and account for 77% of Internet usage; furthermore, 25% had incomes over \$80,000 (U.S.), 50% had professional or managerial positions, and 64% had at least a college degree (Sterne, 1996). In 1996, 58% of Internet users were men and 39% held professional or managerial jobs; by contrast, only 18% of Americans overall hold these type of positions (Edmondson, 1997; Sterne, 1996). The Internet appears to be moving toward a demographic composition that is more similar to the general population, but clearly it is still dominated by an elite group of users.

While the pool of computer network users may not reflect the general population, this does not necessarily preclude using computer networks as a source of research subjects. Since well educated professionals in high income brackets are abundantly represented, the electronic survey may be the method of choice for accessing subjects in these categories (Mehta & Sivadas, 1995; Kiesler & Sproull, 1986). Furthermore, the electronic survey may have some advantages over other methods of data collection (Kiesler & Sproull, 1986).

Comparisons of self administered surveys have revealed that responses from electronic surveys are of a higher quality in some respects than those responses received by other means. In terms of closed-ended questions, no significant difference was found between response patterns on electronic surveys and pencil and paper surveys (Mehta & Sivadas, 1995). However, respondents of electronic mail surveys have been found to give longer, more candid and uninhibited responses to open-ended questions than pencil and paper survey respondents (Mehta & Sivadas, 1995; Kiesler & Sproull, 1986; Kiesler, Siegal, & McGuire, 1984; Sproull, 1986). Additionally, electronic survey respondents appear to be less concerned with pleasing the administrator of the instrument by giving socially desirable responses. Kiesler and Sproull (1986) found that electronic survey respondents were more likely to give less socially desirable responses than pencil and paper respondents. Kiesler, Siegal, and McGuire (1984) suggest that the use of the computer makes the research setting appear impersonal and anonymous, thus allowing respondents to become more

self-centered and less concerned with social norms and the impressions they give to others. By contrast, face to face or telephone interviews increase the respondents' desire to please and are associated with overreporting of socially desirable attributes or attitudes (Kiesler & Sproull, 1986).

Another advantage of the electronic survey is that the response time tends to be faster than for regular mail surveys (Kiesler & Sproull, 1986; Mehta & Sivadas, 1995). Mehta and Sivadas found that half of the electronic survey responses were returned within two to three days, while three weeks passed before half the regular mail surveys were received. Even after taking into account the relative differences in speed of the two mail delivery systems, the researchers suggest that respondents take longer to respond to regular mail surveys.

The speed and accessibility of electronic mail facilitates the clarification of ambiguous or confusing survey components. Respondents have the means to readily pose questions to the researcher and receive answers in a very short period of time (Mehta & Sivadas, 1995). Electronic survey respondents tend to make fewer item completion mistakes and leave fewer items blank (Kiesler & Sproull, 1986).

Both Kiesler and Sproull (1986) and Mehta and Sivadas (1995) have found that more respondents returned regular mail surveys than electronic surveys. 75% to 80% of respondents returned the paper surveys, while approximately 65% to 67% returned the electronic surveys. Dillman (1978) notes that regular mail surveys can be expected to achieve a response rate between 60% to

75%; Heberlain and Baumgartner (1978) place this figure at between 48% and 61%. Thus, although recent studies indicate that the response rates achieved with electronic surveys is lower than with regular mail surveys, the rates for electronic responses were comparable to rates achieved in the past with traditional mail surveys. Furthermore, electronic surveys may receive fewer responses, but the respondents that do reply may be more motivated (Mehta & Sivadas, 1995). Edmondson (1997) notes that e-mail surveys are still a novelty to many people and that this may positively influence the participation of some respondents.

Improved response rates result if the respondents are given prenotification of the upcoming survey. This is significant for regular mail surveys, but it is critical for electronic mail surveys. Mehta and Sivadas (1995) discovered that unsolicited e-mail surveys were met not only with reluctance but also with hostility. In fact, so many complaints were received that unsolicited electronic surveys were discontinued during the course of the study. This reflects the sensitivity respondents have regarding their e-mail accounts and underscores the importance of obtaining permission prior to the administration of a research instrument via electronic mail.

Yet another advantage of electronic surveys is convenience. From the standpoint of the respondent, e-mail surveys can be filled out at a time that is convenient for them, unlike time constrained methods such as telephone or face to face interviews (Edmondson, 1997; Gjestland, 1996). For researchers, the electronic survey reduces time spent on mailing and on

transcribing responses (Kiesler & Sproull, 1986; Mehta & Sivadas, 1995). In addition, responses are automatically stamped with the date and time when returned, and the mail system alerts the sender when an incorrect address is used (Mehta & Sivadas, 1995).

Like any other method of data collection, the electronic survey has disadvantages and limitations. One major limitation is that these surveys are most appropriate for middle to upper class, well educated, professional respondents, given the current composition of computer network users. Also, electronic surveys may be difficult to complete; manipulation of the cursor is not as easy as circling a number on a pencil and paper test (Mehta & Sivadas, 1995). Therefore, care must be taken when designing the instrument.

Yet another potential problem involves the identity of respondents. Misrepresentation on the part of the respondent cannot be controlled in the electronic survey. However, this is also an issue in traditional mail surveys; the researcher has little control over who actually completes a questionnaire once it arrives at the respondent's address (Mehta & Sivadas, 1995). Electronic mail may provide somewhat more control, since users tend to guard their e-mailbox and do not permit colleagues and secretaries to read the messages (Dyson, 1993). Thus, a survey sent to an individual is likely to be read and answered by the intended respondent (Mehta & Sivadas, 1995).

Electronic mail, when used to collect research data, offers faster response time, longer, more candid responses to open ended questions, and greater convenience for both researcher and

respondent than many other data collection methods. Although the current profile of electronic mail users is not representative of the population at large, it bears striking similarities to the profile of exhibit planners (Hooper-Greenhill, 1992; Williams & Rubenstein, 1993). For these reasons, electronic mail is proposed as a method for undertaking research in this study.

CHAPTER FOUR

Methodology

A review of the literature pertaining to the exhibit planning process in museums revealed that little published data exists regarding the methods used in actual practice. In recent years, an apparent interest in including the visitor in the exhibit planning process has been emerging. Although this has led to the development of new and modified exhibit planning models, evidence of such practices among exhibit planners has been scant and mostly anecdotal. Since visitors continue to play a vital role in the functioning of museums, attention needs to be paid to their contributions to museum programming such as exhibits.

In response to this gap in museological research, the following objectives were formulated to guide the research method:

1. To ascertain the identity of decision makers in the exhibit planning process.
2. To identify and describe the factors considered by exhibit planners when developing exhibits.
3. To determine (a) whether visitor centered planning approaches are practiced by exhibit planners, (b) what role visitors play in the exhibit planning process, and (c) whether information about visitors is used during exhibit planning, and if so, how is it obtained.
4. To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

Owing to the lack of previous research in this particular area, a pre-existing instrument to address these objectives was not available and the study was of an exploratory nature.

Following an overview of qualitative research methods, the suitability of electronic mail for conducting qualitative research is examined in this chapter. Particular emphasis is given to using electronic mail to study museum professionals prior to presenting the research methodology used for studying the defined research objectives.

Qualitative versus Quantitative

Two main approaches to research can be categorized as quantitative and qualitative. Quantitative research relies on quantification in data collection and analysis; hypotheses are generally established at the beginning of the study (Grinnell, 1997). Qualitative research employs descriptive methods of data collection and hypotheses are generated as a part of the research process (Grinnell, 1997). The fundamental difference underlying the two approaches is that qualitative research is expansive and inductive while quantitative research is intentionally limiting and deductive (Krysiak & Grinnell, 1997). The approach taken is dependent upon the type of knowledge required for the research problem.

Qualitative research is well suited to exploratory research problems where little knowledge exists prior to the study (Tutty, Grinnell, & Williams, 1997). Whereas the key feature of the quantitative research approach is that the hypothesis is clearly

defined prior to data collection and analysis, qualitative research first determines what the most important questions are, and then refines and seeks answers to increasingly more specific questions (Grinnell, 1997). The conceptual framework thus emerges during the course of the study by means of inductive reasoning (Miles & Huberman, 1994).

Since insufficient information regarding exhibit planning practices exists, a clearly conceptualized hypothesis regarding exhibit planning processes was not considered appropriate for this study. Therefore, a qualitative approach was taken for the methodology.

Qualitative Research Methods

Crabtree & Miller (1992) note that two features distinguish qualitative research from traditional research designs. First, prestructured designs are generally kept to a minimum (Crabtree & Miller, 1992; Miles & Huberman, 1994). Various options for sampling, data collection, and data analysis are selected depending on the specific research objectives and questions (Crabtree & Miller, 1992). In addition, qualitative studies can be loosely or tightly structured to varying degrees, depending on how clearly the conceptual framework can be defined prior to the collection of data (Miles & Huberman, 1994). Second, the qualitative process is cyclical in nature. Collection and analysis occur concurrently, and initial analysis typically changes sampling and collection strategies (Crabtree & Miller,

1992). Thus, the research design must be flexible to allow for ongoing adjustments.

There are two basic means of collecting qualitative data: observation and interviewing. Given the research objectives of the proposed study, observation of exhibit planners was not considered an efficient and feasible way of collecting data. Interview techniques are discussed below.

Interviews can be categorized as unstructured, semistructured, or structured (Crabtree & Miller, 1992). Unstructured interviewing is a guided conversation that occurs during the course of everyday life; this usually takes place during participant observation (Crabtree & Miller, 1992). Semistructured interviews are more focused and concentrated and allowing the interviewer to explore and probe into participants' responses. The questions, probes and prompts may be written in the form of a flexible interview guide, or they may be allowed to develop from the content of the interview (Crabtree & Miller, 1992; Franklin & Jordan, 1997). When conducted with groups of respondents, the semi-structured interview is known as a focus group (Crabtree & Miller, 1992). Structured interviews utilize a rigidly structured interview schedule to direct the interview. Since the questions used are highly specific and predetermined, this method is best used when sufficient information exists with which to develop the interview schedule (Crabtree & Miller, 1992; Franklin & Jordan, 1997).

The objectives of this study were exploratory. Insufficient background data precluded the development of a highly structured

questionnaire or interview schedule. Since some conceptual models of exhibit planning have been proposed, albeit not tested, a semistructured design was considered the most appropriate approach for the given set of research objectives. This approach offers some direction for participant selection and initial data gathering and analysis, but affords the researcher some flexibility to explore in the event that unanticipated concepts emerge (Miles & Huberman, 1994).

Semistructured Research Methods: The Interview and Focus Group

As with any research method, interviews and focus groups have advantages and disadvantages. The semistructured interview involves one to one communication between the interviewer and respondent. The interviewer has a great deal of control in directing the discussion and can explore the individual's responses in great depth (Crabtree & Miller, 1992; Rosenfeld, Booth-Kewley, & Edwards, 1993). Questions can be adapted based on the respondent's answers to previous questions (Rosenfeld, Booth-Kewley, & Edwards, 1993). Since other participants are not present at the interview, the individual participant is not influenced by the responses of others. However, it should be noted that in face to face interviews it is difficult for respondents to feel completely anonymous, prompting individuals to give more socially desirable responses (Rosenfeld, Booth-Kewley, & Edwards, 1993). In addition, the interview process is time consuming and usually limited to relatively small sample sizes (Krueger, 1988; Rosenfeld, Booth-Kewley, & Edwards, 1993).

Focus groups are semistructured interviews conducted with a group of participants. As in individual interviews, the interviewer can probe and explore the responses given by the participants (Swallow-Yee, 1997). However, interactions between members of the group can further prompt discussion and raise ideas and issues that might not emerge during individual interviews. Conversely, group dynamics may influence the responses given by participants. And although the group format allows the researcher to increase sample size (Krueger, 1988), groups can be difficult to assemble and the moderator has less control over the discussion than in individual interviews.

Clearly, both interviews and focus groups could be useful for collecting data about exhibit planning. The interview guide provides a means for investigating the general research questions, yet is flexible enough to allow exploration of concepts brought forward by participants. However, both methods have some drawbacks that limit their suitability to the proposed study.

The first problem is one of logistics. Interviews and focus groups require the interviewer and participants to be available at a particular time and place. For focus groups, the assemblage of a group of participants poses even an even greater challenge than arranging one to one interviews. These time and place constraints limit the pool of potential participants to those located in a small geographic radius. This would have limited participation to those exhibit planners located in Winnipeg and the surrounding rural communities. In the case of individual interviews, telephone interviewing may overcome the distance boundaries, but

would have also incurred higher financial costs. Correspondence by mail was another alternative, but the slow turnaround time would not have been conducive to the exploration and probing of participants' responses.

The interview guide may contain predetermined probes and prompts for leading the discussion. But as Franklin and Jordan (1997) have noted, unanticipated and useful data can be elicited during the course of an interview if the researcher follows cues provided by participants. Since interviews and focus groups are done in real time, this means the interviewer must analyze data and formulate appropriate probe questions instantly. The interview format does not allow for extended reflection on responses nor consultation with other researchers or literature during the course of the interview.

A third issue is impression management. In a focus group setting, participants may be concerned with the opinions of other group members and thus give more socially desirable responses (Kiesler, Siegal, & McGuire, 1984). Even in individual interviews, the lack of anonymity may still influence the participant to give responses considered socially appropriate (Rosenfeld, Booth-Kewley, & Edwards, 1993).

In response to these concerns, a modified interview design, incorporating the strengths of individual interviews and focus groups while limiting some of weaknesses, was employed for this study.

Using Electronic Mail for Qualitative Research

Electronic mail is a relatively new but increasingly utilized method for data collection. Although very little has been published thus far, early studies suggest that electronic mail has some advantages over more traditional data gathering techniques.

Unlike interviews and focus groups, electronic mail is not limited by time and place. Participants can respond to questions at a time that is convenient for them. Geographic distance is not a factor since electronic mail can be sent to international locations in a matter of seconds (Mehta & Sivadas, 1995). Additionally, costs incurred to send and receive electronic mail are nominal (Mehta & Sivadas, 1995).

The speed of electronic mail delivery also means that participants can enter into a dialogue with the researcher. Mehta and Sivadas (1995) found response time with electronic mail surveys to be two to three days for most respondents. Not only does this allow participants to ask for clarification, but it also gives the researcher an opportunity to reflect and consult on the responses received before sending additional probing questions.

Questions sent via electronic mail can be sent simultaneously to participants, similar to posing a question in a focus group setting. However, responses may be returned in two ways: (1) to all participants, or (2) to the researcher only. In the first case, responses would be posted in an electronic mailing list forum, while in the second, the replies would be directed solely to the researcher's electronic mail account. Although the mailing list forum could function similarly to a focus group in that

participants can directly respond to comments made by others, the impression management issue among exhibit planners is a significant factor to consider. Responses mailed directly back to the researcher are similar to the conventional individual interview format, with some important distinctions.

Unlike regular interviews that are conducted sequentially, electronic mail interviews can take place simultaneously with numerous participants. This means that the researcher can receive and analyze responses of many participants, and send out newly formulated questions based on these responses to all participants. In addition, the responses of individual participants can be explored further without involving other participants. Therefore, the electronic mail format can combine elements of both individual interviews and focus groups.

Many research studies have found the responses to open-ended questions on electronic surveys to be of high quality. Respondents tend to give long, candid responses on electronic surveys (Mehta & Sivadas, 1995; Kiesler & Sproull, 1986; Kiesler, Siegal, & McGuire, 1984; Sproull, 1986). Since the electronic survey reduces social context cues to a greater degree than face to face or telephone interviews, the respondent views the research context as anonymous and impersonal; respondents become self-centered and relatively unconcerned with the impression they give to others (Kiesler, Siegal, & McGuire, 1984). This is a particularly desirable context for eliciting responses from exhibit planners whose concerns with the opinions of colleagues may influence the responses given. Linn (1983) and Miles (1993b)

have observed that exhibit planners may place great value on the opinions of their professional colleagues. If a face to face setting for interviews was used, as in focus groups, the exhibit planners may be give more socially desirable responses regarding their practices.

The use of electronic mail for data collection does raise some concerns, as noted in Chapter 3. Misrepresentation by respondents and the elite demographic profile of the electronic mail user are foremost among the potential problems. However, the risks presented by these problems are not necessarily greater than in other methodologies. Moreover, the demographic profile of exhibit planners is congruent with that of the typical computer network user, thus suggesting that electronic mail was an appropriate means for collecting data in this study (Edmondson, 1997; Hooper-Greenhill, 1992; Kiesler & Sproull, 1986; Lefton, 1993; Sterne, 1996, Williams and Rubenstein, 1993).

Museum professionals and computer network usage. The profile of Internet users bears some remarkable similarities to that of museum professionals. Hooper-Greenhill (1992) and Williams and Rubenstein (1993) observe that the traditional museum audience is reflective of the demographic profile of most curators: 20 to 44 years of age, professional, affluent and has attained a post-secondary education. These characteristics are also typical of the average Internet user (Edmondson, 1997; Kiesler & Sproull, 1986; Lefton, 1993; Sterne, 1996).

There is further evidence to suggest that museum professionals are active users of electronic mail services and the Internet. Numerous electronic forums dedicated to the discussion of museums exist, most of which are targeted to museum professionals. These allow users to communicate with each other via e-mail or electronic bulletin boards. At least seventeen museum-related forums have been identified, some with several hundred participants (see Appendix A).

Of course, it is unknown whether those museum professionals with Internet or e-mail access are representative of the entire population of museum professionals; this has not been determined by prior research. While this may mean that results of e-mail surveys from this population could not be generalized, it does not mean that useful information cannot be gleaned.

The aim of this research project was not to determine the prevalence of particular exhibit planning processes among museum professionals in general, but rather to find out whether models beyond the traditional are being applied at all. Since the on-line professionals are already at the forefront by being connected to a computer network, it seemed reasonable to suggest that among these professionals other innovative practices, such as exhibit planning practices, were likely to be found. The participants of museum electronic forums explore and debate ideas, issues, research, professional concerns, and techniques; thus, they appear to be particularly interested in continued professional development and learning. Therefore, museum professionals who utilize electronic forums comprise a subject pool that was

considered suitable for investigating the objectives of this research project.

Research Process

An electronic mail interview process was used to gather data regarding current practices among exhibit planners. Subscribers of seven museum and historic costume related electronic newsgroups and mailing lists were targeted for the study. Over a six week period, consenting subjects were asked a series of questions relating to their exhibit planning practices. Data were then analyzed following systematic qualitative analysis techniques.

Participants

Selection. The population for the study comprised active subscribers to seven electronic newsgroups or mailing lists. Selection of the electronic forums was based on the presence of professional museum exhibit planners among the current membership. This was determined through direct communication with newsgroup or mailing list administrators or through observation of discussions among forum participants (W. Beatty, personal communication, October 2, 1997; J. Earls, personal communication, November 7, 1997; G. Jerry, personal communication, October 2, 1997; L. Somsel, personal communication, October 15, 1997). The electronic forums targeted for this study were: CHILDMUS, h-costume, museum-ed, MUSEUM-L, TEXTILES, WEBHEAD, and bit.listserv.museum-l.

The participants were self selected from among the current subscribers of the seven newsgroups listed above. A message

providing a brief introduction to the study, the dates during which it will be conducted, and the type of participants being sought was posted to the selected forums (Appendix B). All eligible and interested subscribers were asked to respond to the researcher via an electronic mail message. To be included in the sample, the respondent was required to be (a) an exhibit planner, as defined in Chapter 1; (b) currently employed or contracted by museum either on a part-time or full-time basis; (c) an active subscriber of at least one of the selected electronic newsgroups or mailing lists; and (d) associated with a museum that engages in exhibit planning on a regular basis.

Informed Consent

Upon agreeing to take part in the study, the consent of each participant was secured by the researcher. For the field studies, the purpose of the study and how the responses would be used was explained to the participants prior to receiving their verbal consent. For the main study, a brief introductory statement regarding the study and a consent form were included in the first electronic mail message sent to the participants (Appendix C).

Confidentiality

To ensure that the identity of participants remained confidential, a system of handling the gathered data was devised. Each subject was assigned a three digit code to assure anonymity of the stored records. Two master lists of the subjects' names, e-mail addresses and assigned codes were kept for the duration of

the study; one was held by the researcher's main advisor, the other by the researcher. The electronically received responses from subjects were printed on paper upon receipt. The participant's code was affixed to the document and any identifying details, such as the name and e-mail address of the participant or their institution was cut off and destroyed. A photocopy of the responses was made, and one set was kept by the researcher and the other by the researcher's main advisor. At no time during the data analysis or reporting of results would the identity of the individual participants be revealed. Destruction of all records and responses was scheduled to occur at the completion of the study.

Field Tests

Two field studies were conducted prior to undertaking the main study. This not only provided an opportunity to test the electronic mail method, but also to test the validity and clarity of the proposed interview questions.

Field study 1. The intention of this pilot study was to test the distribution of interview questions via electronic mail and the handling of incoming electronic data from the participants. Three graduate students from the University of Manitoba who had an active electronic mail account were sent an electronic mail message requesting subjects for an electronic mail interview. Upon agreeing to participate, the students were sent an open-ended question regarding the process they use when writing a research paper for a university course.

Upon receipt, participants' responses were then handled in accordance with the previously determined confidentiality guidelines. A paper copy of electronic mail messages was printed and a code was recorded next to the body of the text. Any information that could potentially identify the participant, such as the name or e-mail address of the individual, was cut off and destroyed. Since it was observed that such identifiers may appear in the body of the response, and therefore could not be removed without destroying the text of the message, opaque ink was sometimes used to obliterate the identifiers.

The electronic mail message initially sent to the graduate students was mailed individually to each of the three students to test the process of sending and receiving messages. Since it was determined through the field test that this could be time consuming, particularly if a large number of participants was gathered for the main study, another method of distributing electronic mail was tested.

The graduate students targeted for this field test were sent a second electronic mail message to test a method of sending simultaneous messages to all participants. This method employed the use of the blind carbon copy function of the electronic mail software package that would be used in the main study to distribute messages. When preparing the message, the researcher listed herself as recipient of the message; thus, the researcher acted as both the sender and receiver. The e-mail addresses of the graduate students were listed simultaneously under the "BCC" (blind carbon copy) section at the head of the message. In the

body of the message, the students were asked to confirm that they had received the message and to state whether they could identify the other recipients of the message. All three participants confirmed that they had received the message and that they could not ascertain the identity of the other recipients.

The results of the first field study confirmed that the measures that had been proposed for the handling of the electronic messages were reasonable. The confidentiality of the participants could be ensured through the system of coding and separation of identifiers from the main text message. However, an additional measure for obliterating identifiers within the body of the message was found to be necessary. Furthermore, the use of the blind carbon copy function when sending e-mail messages was determined to be a time consuming method of distributing simultaneous messages to participants in a way that did not compromise their confidentiality.

Field study 2. The purpose of the second field study was to test the validity of the proposed interview questions and to gain feedback regarding clarity and wording. Two exhibit planners located in the Winnipeg area were asked to participate in a telephone interview exploring their exhibit planning practices. The researcher contacted each potential participant by telephone and provided a brief introduction to the research project. After obtaining verbal consent, a time and date for the interview was negotiated between the researcher and the participant. The initial set of open-ended questions and probes developed for the main study were used.

The criteria used to select subjects for the second field study are as follows: (a) an exhibit planner, as defined in Chapter One; (b) employed, either currently or within the past five years, by a local museum; (c) not an active subscriber of an electronic newsgroup or mailing list that will be targeted for the sample in the main study; and (d) associated with a museum that engages in exhibit planning on a regular basis

The telephone interviews were tape recorded and reviewed to determine whether the participants encountered any difficulty understanding the questions or provided unanticipated answers that did not meet the intended objectives of the questions. Upon review, the participants exhibited no apparent difficulty in understanding the questions posed to them. Additionally, the answers given fell within the expected parameters of the objectives.

Electronic Mail Interview Procedures

After approval from the Faculty of Human Ecology Ethics Review Committee was secured, data gathering for the main study commenced. The electronic mail interview proceeded in three stages over a six week period. In the first stage, subjects were asked for their formal consent and to answer the initial set of open-ended questions. During the second stage, participants were asked to respond to a second set of open-ended questions. In the final stage subjects were sent a set of closed ended questions that were used to generate profile about the exhibit planners and the institutions at which they are employed. In addition to these

questions, some of the participants were asked to elaborate or clarify some of the answers they had provided to the researcher.

Stage 1. Subjects who responded positively to the initial recruitment posting were sent an electronic mail message containing a consent form, an introduction to the study, and the initial set of interview questions (Appendix C). This message was sent to the subjects' individual electronic mail accounts and was not posted on the electronic newsgroups or mailing lists. Initially, this message was mailed simultaneously, using the blind carbon copy function, to all the participants who responded to the recruitment message. For participants who responded to the recruitment message after this initial mailout, the message was sent on an individual basis.

The consent form addressed concerns about the anonymity of respondents and the treatment of interview records to ensure privacy. Subjects were also informed that their participation was entirely voluntary, that they could choose not to continue at any time, and that no additional information would be sought from them after the three week information collection period. To ensure the conditions for eligibility had been met, the subjects were asked what position they held at the museum they are associated with and whether they were employed on a full-time or part-time basis.

The first part of the message introduced the participants to the researcher and the study. The anticipated number of questions and the anticipated dates for mailing interview questions were stated in the introduction. The second part of the message

contained the consent form and outlined the steps that would be followed to ensure the participants' confidentiality.

The final part of the message contained the initial interview questions. On the basis of the research objectives and literature review, the following four basic questions had been formulated:

1. What are the job titles of the people involved in exhibit planning at your institution and what are they responsible for?
2. What are the basic steps followed to develop an exhibit at your institution?
3. What factors do you consider most important when planning an exhibit?
4. How do you know when an exhibit is successful?

Stage 2. During the second stage, the participants were sent another set of open-ended questions that further probed into their exhibit planning experiences. These questions were mailed to all participants who had given their consent to participate and had completed the first set of questions. As responses to the first set of questions were received, the participants were promptly sent the second set.

Participants who had not responded to the stage one message were mailed a reminder notice ten days after the initial message had been sent (Appendix D). Some of the participants indicated that they required another copy of the stage one questions; this was mailed to them accordingly. Others responded by completing the first questions or by indicating that they would do so in the

near future. The remaining participants did not respond to the reminder notice and were not sent any subsequent mailings.

The second set of questions consisted of the following:

1. Other than your colleagues, who else do you consult when planning exhibits?
2. Do you ever make changes to exhibits after they are opened to the public?
3. How do/might you feel about being part of an exhibit planning team?
4. Does your museum seek feedback from visitors? How is this done?
5. Are formal exhibit evaluations ever used at your institution, and if so, do you consider them helpful in your work?

The complete text of the message sent to participants is included in Appendix E. Upon receipt of the responses to the second set of questions, participants were given the third and final set of questions.

Stage 3. During the final stage, participants were asked to respond to a set of closed ended questions. These were used to generate a profile of the participants and the institutions they represent. Participants were also offered the opportunity to request a summary of the results for this study. The set of closed ended questions asked for personal information, including age, education level, and job title, as well as details about their museum's operations, such as operating revenue, and number of

personnel presently employed. The message sent to participants is included in Appendix F.

Qualitative Analysis

Strategies for analyzing qualitative responses can be divided into four main categories that fall along a continuum from objective to subjective: quasi-statistical, template analysis, editing analysis, and immersion/crystallization analysis (Crabtree & Miller, 1992). The choice of analysis technique is determined by the research objectives, the collection techniques used, and what is already known about the topic of interest (Crabtree & Miller, 1992). When the goal is exploration and scant knowledge exists, the more subjective, interpretive approaches are preferable.

Most qualitative analysis employs the intermediate approaches. One type of these analytical techniques is known as template analysis. An analysis guide, or template, is applied to the text and meaningful units or parts are identified. These units are then further sorted into categories until patterns emerge. Similar to codebooks used in objective forms of qualitative analysis, the template is more open-ended and can be revised after analysis of the text has begun. Moreover, the focus in template analysis is on the generation of themes, patterns and interrelationships rather than a statistical process (Crabtree & Miller, 1992).

The codebooks used in template analysis can be either priori or apriori (Crabtree & Miller, 1992; Franklin & Jordan, 1997).

Priori codebooks are the most structured; codes and categories are developed prior to data collection based on previous research studies (Franklin & Jordan, 1997). Apriori codebooks are developed during and after the data is collected. Codes and categories emerge from the analysis of responses (Franklin & Jordon, 1997). Modifications can be made to the coding process until a good fit between the data and codes is achieved.

Review of the literature revealed several proposed exhibit planning models, although evidence supporting these models is scant. Given that previous research in this particular area was essentially nonexistent and that the present study was exploratory, the analysis used an apriori approach. As patterns and themes emerged from the data, the template would be refined and developed until a descriptive picture of current exhibit planning practices could be generated.

CHAPTER FIVE

Results and Interpretation

Over the course of a six week period, participants were asked to respond to three sets of questions concerning their experiences with exhibit planning. These responses, collected electronically via e-mail messages between the researcher and participants, were then compiled and analyzed.

This chapter presents the results and interpretation of the collected responses with reference to the objectives of the study. The interrelationships discovered among the participants' responses are used to develop a picture of exhibit planning practices currently in use by the participants.

The Participants

Participants for the study were recruited by posting a message to seven electronic newsgroups and mailing lists (see Appendix B). The electronic forums targeted for this study were CHILDMUS-L, h-costume, museum-ed, MUSEUM-L, TEXTILES, WEBHEAD and bit.listserv.museum-l. The initial recruitment message was posted in late February, 1998.

Respondents to the initial recruitment message were sent a brief e-mail message to confirm receipt of their message and to inform them of the approximate starting date of the study. In addition, any questions that the potential participants had regarding the study were addressed by the

researcher at this time. The informed consent of participants was secured once the study commenced in early March, 1998. A brief introduction to the study and a consent form were part of the stage one message electronically mailed to the participants (see Appendix C).

During the third stage of collection, respondents were asked to provide information about themselves and the institutions they represent by answering a series of closed-ended questions. The purpose of these questions was to develop a profile of the participants who took part in this study.

Most of the respondents heard about the study through the MUSEUM-L mailing list. Recruitment of the other participants was split equally among WEBHEAD-L, CHILDMUS-L, and the MUSEUM-L newsgroup. One participant had received a copy of the recruitment message from a friend who subscribes to h-costume. None of the participants had been recruited through the museum-ed or textiles-l mailing lists.

The respondents were spread over a broad geographic area. Initially, a total of twenty-one participants responded to the first stage of the interview; in the subsequent stages, the number of responses declined (Appendix G). Of those who completed all three stages of the interview, the majority were located in the United States and one was from Wales in the United Kingdom. Responses were also received from Australia and Canada, but these

participants dropped out of the study after the initial stage.

Almost all of the participants were in the age range from twenty-five to forty-five years, with the majority concentrated in the thirty to forty-five year range. Only one participant indicated that they were between the ages of fifty-six and sixty-five years. In terms of achieved education level, all but one participant had attended a college or university. Most had attained a Masters degree, and one had taken some courses towards a Ph.D., although s/he did not intend to complete this degree.

The job titles of the participants varied. Most of the respondents played a leadership role in their museums, holding positions such as director, committee chair, or exhibit developer. The remaining participants were also in managerial, but non-leadership, positions including assistant curators and exhibit designers.

The profile of the participants in this study was similar to the profiles of both computer network users and museum professionals described in the literature. Sterne (1996) found that 64% of Internet users had at least a college degree and 50% held professional or managerial positions. Lefton (1993) observed that e-mail users in the United States had attained above average education levels, while Kiesler and Sproull (1986) determined that the people who have access to and are familiar with computers computer networks tend to be well educated. Furthermore, the

demographic profile of the typical museum curator, who has traditionally occupied the leadership role during exhibit planning, has been described as a professional with a post-secondary education and between the ages of twenty to forty-four years (Hooper-Greenhill, 1992; Williams and Rubenstein, 1993). Thus, the actual profile of participants in the present study was consistent with the anticipated profile.

The museums of the participants in this study represented a variety of disciplines and sizes. Among the types of institutions were science, children's, and human history museums, as well as a library and a historic site. One of the participants was employed by an exhibit design company that specialized in producing exhibits for children's museums. In terms of size, the institutions ranged from one or two employees to over sixty. Many of the institutions relied heavily on volunteers, with the volunteer staff often outnumbering the paid staff. At two of the museums, the entire staff was comprised of volunteers. Of the respondents, the majority were employed full-time and two were part-time volunteers.

Most of the participants were not able to indicate a dollar value for the operating revenue of their institutions. From the responses that were received, it was apparent that both museums with small (under \$40,000 U.S.) and large (over \$1,000,000 U.S.) operating revenues were represented. One other participant indicated a mid-range operating revenue of between \$40,000 and \$99,999 U.S.

For the most part, the participants were able to provide information regarding the sources of operating revenue for their museums. The majority of the institutions did not receive money from the government, but of the ones that did, government funding was ranked either the first or second most important source. For the other institutions, admission fees, individual donations, membership fees and book/gift shop sales were the most important revenue generators. This suggests that museums are indeed relying on visitor-related funding sources, just as numerous researchers have observed (Donahoe, 1988; Knott, 1992; Linn, 1983; Williams & Rubenstein, 1993).

Analysis and Interpretation

The Analysis Process

The responses given by the participants were analyzed using a template method of qualitative analysis. The text was initially read to identify meaningful ideas and themes. The significance of these ideas was judged on the basis of relevance to the objectives of the study, as well as similarity to ideas found in the literature. The intent of the study was to be exploratory; it was not expected that the results could be used to make a general statement regarding practices of exhibit planners since the participants were not selected to be a representative sample. Therefore, frequency was not used as a criteria to judge the value or significance of a given response. However, similarities and differences

among the responses of the participants were noted and recorded.

The identified ideas and themes were sorted into categories. Ideas that did not appear relevant to the objectives were categorized separately. The basic framework of the a priori template was developed by producing a document of the categorized ideas. This template was used to further analyze the text.

Responses were reread and compared to the template. Modifications were made to the template so that it would more accurately reflect the meaning of the given responses. The process of reading and adjusting the template was repeated several times to identify any patterns emerging from the text. Using the objectives of the study to guide the analysis, themes and interrelationships in the responses were discerned and recorded.

To ensure the template was a valid reflection of the participants' responses, feedback was requested from a graduate student who had no prior exposure to the results of the study. The graduate student was supplied with the template and responses for each question used in the interview and was instructed to note any perceived discrepancies between the template and responses. Since no differences were identified, further modifications to the template were not necessary.

The results and corresponding interpretations are presented here, organized by objective. This study had four

main objectives that guided the examination of current practices among museum exhibit planners.

Summary of Results by Objective and Interpretation

Objective #1

The first objective of the study was to identify the roles of the individuals who were involved in decision making during the exhibit planning process. Participants were asked to provide the job titles and responsibilities of those people who were involved in exhibit planning at their institution. The responses to this question indicated that job descriptions vary greatly among institutions. For instance, the curator may be primarily responsible for content development and research at one museum, while at another the curator participates in all aspects of exhibit development, from the initial idea to final installation. Also, it was evident that at many of the institutions the duties and responsibilities of museum staff members were shared. Since many of the participants indicated that they were part of an exhibit planning team, often more than one person was identified as being responsible for particular exhibit planning decisions.

Among the responses received, a number of the participants gave the titles and descriptions of people who were not involved in exhibit planning. These included production and maintenance staff, as well as those in support roles such as administrative assistants and office staff.

While it is recognized that these staff members do play a vital role during exhibit production, this study was limited to the exhibit planning process. For this reason, only the people who contributed to exhibit planning decisions were included in the results.

The analysis revealed nine major categories of exhibit planning responsibility:

1. Project leading
2. Concept/theme development
3. Content decisions
4. Research and label copy decisions
5. Design
6. Technical/production decisions
7. Educational programming and communication
8. Financial decisions
9. Communication among staff.

Project leading. Most of the participants described one person who oversees exhibit development and holds the ultimate responsibility for the exhibits produced. In many instances this person was referred to as a director or project leader, although some participants identified the curator as occupying this position. One participant stated that their museum has a "Project Brief Writer", who is a curator in charge of writing and coordinating the design brief that guides exhibit development.

Concept/theme development. Some of the participants described duties that involved setting the direction for

exhibit development. This included deciding which exhibit ideas to proceed with or determining the exhibit theme. At one museum, this task was handled jointly by the Executive Director and the Board of Trustees. At other institutions the Curator or Exhibition Director/Developer were responsible.

Content decisions. Decisions regarding the objects and information that would be included in the exhibit often fell under the curator's domain. However, many participants stated that input or advice was sought from other staff, including educators and subject matter specialists. At a majority of the institutions input was sought from external sources. In these cases, experts and people representing the target audience were consulted.

Research and label copy decisions. Individuals with various job titles were responsible for research and label copy. Although the curator or assistant curator were most commonly in charge of this area, the task may also fall to the exhibit developer, exhibit designer, or to a committee.

Design. The responsibility for design related decisions and the development of design concepts were generally attributed to either a member of the curatorial staff or to an exhibit designer. One participant stated that the Director of Exhibits was in charge of these decisions. Many of the participants noted that other staff members, such as educators or subject matter experts, provide input for these decisions.

Some of the participants indicated that their museum involved external exhibit designers in this portion of the planning process.

"We have found freelance designers to offer a wider range of visual styles, experiences, and points of view than we could maintain on staff. Some projects are just more appropriate for one designer than [sic] for another."

While this participant described the consistent use of an external designer, another participant noted that an outside designer is used when the museum can afford it; otherwise, the curator takes on these duties.

Technical/production decisions. Decision making regarding the fabrication of the exhibit emerged as an area distinct from the design process. This included decisions about production techniques, materials used, production specifications, technical design, as well as the supervision of the production and installation process. This task typically fell to the person in charge of coordinating or overseeing the exhibit, such as the Director of Exhibits, Coordinator of Exhibits, Exhibition Manager, or Director of Operations.

Educational Programming and Communication. Numerous participants included on-staff educators as exhibit planning decision makers. Educators were described as developers of educational programs related to exhibits as well as providers of input regarding exhibit content, staff training

requirements, communication strategies and learning needs of the visitors. One participant stated that their learning advisor was also responsible for conducting exhibit evaluations.

Financial decisions. The financial responsibilities surrounding exhibit planning fell into two main categories: fundraising and budget management. From the participants that mentioned fundraising as a responsibility, this task was carried out by the director. On the other hand, management of the budget was not handled by the director but rather the curator, exhibit designer, or associate director.

Through their descriptions of the job titles and responsibilities of museum staff members, it was clear that many of the participants worked on teams when developing exhibits. To explore their attitudes regarding the team approach, the respondents were asked to describe how they felt, or how they might feel, about being part of an exhibit planning team.

For the most part, responses to this question were favorable. The descriptors used by the planners included "wonderful", "rewarding", "the best", "great idea", and "invigorating". Some of the participants like the contributions and support from other team members.

"Each of us brings a difference [sic] aspect to the planning process."

"Everyone has different ideas, responsibilities and points of view but all work towards the same goals."

"I get alot of support and feedback from my team."

Others felt that teamwork enhanced creativity.

"Creativity only gets better in groups."

"It's creativity at its best."

As one participant observed, the "group is more than the sum of its parts."

Despite the favorable comments made by most participants, some problems with the team approach were identified. A few of the participants found the team approach to be inefficient.

"Doing it well takes a tremendous amount of time. But so does doing it poorly."

"...I'm not convinced that exhibit teams are the best use of time. If only we could get the input and ideas without the time consuming meetings."

For another participant, the problems stemmed from the dependence on other team members.

"...anyone out of sync or slacking off (or not represented) can blow the whole project."

Thus, the team approach was perceived to have drawbacks.

One significant pattern that emerged from the responses was the desire among the participants that the exhibit

planning team have a leader; someone with authority to guide the project.

"I think there is something to be said for one person being in charge and delegating as they see fit. They say a dictatorship is the most efficient form of government..."

"It's invigorating...everyone has something to add...But it does take one person to be the leader, creating the agenda and outline (for the rest to then discuss and adapt), and directing and supervising the effort and so on."

"More ideas, more viewpoints as long as somebody is keeping things rolling along."

Clearly, the participants viewed the solution to the problem of inefficiency as being the presence of a well-defined, authoritative leader.

Interpretation. The exhibit planning job titles and responsibilities that were described by the participants were similar in many ways to those found in the literature. Traditionally, models of exhibit planning defined and separated the roles played by the curator, designer and educator; their responsibilities did not overlap. In more recently developed models, boundaries between these roles and responsibilities have loosened in favor of a team approach to exhibit planning.

Historically, educators were not part of the exhibit planning process. But as more emphasis has been placed on the education function of museums, particularly since the 1970's, educators have become a regular member of museums' staff (Screven, 1993b; Volkert, 1991); the evidence of education and learning specialists among the participants' responses attests to this. Early models of exhibit planning confined the educators role to the end of the process, developing educational programs after content and design decisions are made (Miles, 1993a). Newer models, such as Smithsonian system, London system and Bitgood model incorporate the input of educators earlier in the process. The responses given by participants indicated that educators are still involved in program development. However, it was also clear that the educators contribute to decisions made regarding content and design. Thus, at the institutions examined in this study, a modern conception of the role of the educator was in place.

Curator-led exhibit planning was the system used traditionally (Miles, 1993a). The concept of a project leader who is not the curator is a relatively new idea. Both the Smithsonian and London systems of exhibit planning incorporate a non-curatorial leader who heads the project, sets deadlines, raises funds and holds the ultimate responsibility; these are the same duties that were given by participants when describing their leaders. It is interesting to note that one of the institutions had a

"Project Brief Writer" who oversees exhibit planning; this concept is virtually identical to that used in the London system. Although the leaders depicted by participants generally held non-curatorial positions, this was not always the case. Therefore, the practice of curator-led exhibit planning was found to still exist alongside the newer approaches to team leadership.

Among the participants who included information regarding financial decisions, a clear distinction was made between the person who raises the money for exhibits and the person who manages the budget. While the leader of the exhibit team generally acted as a fund-raiser, the responsibility for controlling the finances was often held by a more junior member of the team, such as the curator, designer or associate director.

This division of responsibility described by the participants is very similar to that seen in the Smithsonian system (Miles, 1993a). The Client acts as the senior decision maker, with the project management responsibilities falling to the Broker. Beyond simply managing the finances, the Broker also acts as an intermediary between team members and the Client. Evidence of this concept of a liaison was also found among the participants' responses.

Another division of responsibility identified by some participants occurred between concept or theme development and content-related decision making. Setting the theme for the exhibit appeared to be a decision made by a senior member

of the team; decisions about content followed after the theme was chosen. This concept was similar to the Smithsonian system in that the leader, or Client, commissions the exhibit and this forms the basis of the content and design related decisions made by the other team members (Miles, 1993a). Birch's (1982) theatrical approach is also similar in that the "play", or exhibit, is first selected and then discussions among the director, designer and technical crews begin.

Not all of the participants identified concept development as a separate area of responsibility. For some, decisions regarding the exhibit theme were part of the content decision process. At many of the institutions, this process was not carried out in isolation by one person. Rather, input from other staff members, experts or visitors was sought. This was not the only area in which team members shared responsibility for exhibit planning tasks. Design related-decisions were also carried out using a team approach.

A number of the models identified in the literature depict this sharing of responsibility and input from external sources. In the London system (Miles, 1993a), all members of the exhibit team contribute to decision making. Likewise, Bitgood (1990) and Stanton (1995) include a team decision making process in their models, and input from visitors is incorporated.

Although the responses received from the participants appear on the surface to reflect a traditional division between design, education and content or curatorial decisions, at the majority of institutions these responsibilities overlapped each other. Thus, there is evidence to suggest that the team approach depicted in the literature is actually being put into practice in museums at the present time.

The team approach was, of course, not universal. A minority of the respondents described scenarios in which one or two people are responsible for all aspects of exhibit planning and production. This likely reflected the size of the institutions that employed them. Although most of the respondents were from institutions that employed over twenty people, a few of the institutions represented had less than five employees. In some cases, the museums were heavily dependent on volunteers. Where smaller staff sizes exist, it is reasonable that the exhibit planning responsibilities would be concentrated on one or two individuals rather than spread over a large team.

Although the literature review identified the concept of team exhibit planning, very little was uncovered regarding the attitude of team members toward this approach. In the traditional approaches to exhibit planning, where the responsibilities of the curator, designer and educator are clearly delineated, challenges to the curatorial authority were not invited and were perceived as a threat (Miles, 1993;

Williams & Rubenstein, 1993; Walsh, 1992). It is interesting to note that this attitude still exists to some degree today. As one participant stated:

"When I am heading an exhibit, I consult with the security chief, education specialist and registrar on the design (I don't claim to know everything and can use their input and advice) but I know this is not done for all exhibits. Exhibits tend to be very territorial around here, and input is not always welcome."

Clearly, not all planners favor a team approach to exhibit planning.

Overall, the attitude to working as part of a team was described in positive terms by the participants. Although inefficiency was identified as the major drawback of exhibit teams, the solution was also offered in the form of a team leader. Thus, while planners like the support, creativity, and feedback that comes from a group approach, their desire for efficiency requires that one person take charge.

Objective #2

The second objective of the study was to identify and describe the factors considered by exhibit planners when developing exhibits. To determine this, participants were asked directly to detail the factors they bear in mind during the exhibit planning process. It is important to note that the participants were not asked to rank these factors,

although a few did offer their opinions, since the objective was simply to identify the factors.

Eight factors could be identified among the responses of the participants. These included:

1. The visitor
2. Goals
3. Available resources
4. Duration of exhibit
5. Technical and design considerations
6. Subject matter
7. Communication
8. Marketplace competition.

The visitor. Analysis revealed that the visitor is one of the key factors that exhibit planners consider. Many participants were concerned with the target audience for the exhibit and took into account such factors as age level, intelligence, and awareness of the subject matter. Attracting visitors and making the exhibit appealing to them was seen as a priority. Some indicated that they were conscious of the diversity of their visitors and thus were concerned about providing "something for everyone." Similarly, many of the participants expressed that the interests of the visitors were important and that the exhibit should be relevant to their lives and experiences. However, one participant cautioned that "keeping the visitors [sic] experience and expectations in mind is important, but only in

the sense that you will work with it as a base to build on, not to 'dumb down' your text."

Though most of the participants indicated that their institutions collect visitors' comments through a suggestion box or comment book, very few identified visitors' suggestions as a factor they considered while planning exhibits. A minority of participants stated that they use front-end evaluation or prototyping during exhibit development. When feedback about exhibits was sought, it generally occurred after completion and typically through such informal means as observation and conversations with visitors and the staff members who work directly with visitors. Thus, the visitor is considered an important factor when planning exhibits, but formal input from visitors during planning did not appear to be part of this process.

Goals. Other than the visitor, goals were identified as a guiding factor for exhibit planning. This included not only educational goals and the specific mission of the exhibit, but also the museum's goals. Participants indicated that it was important for exhibits to conform to the mission of the museum. Goals were perceived as a backbone for exhibit development: "It is imperative that everyone on the team understand and buy into the mission of the exhibit, and that everyone is working toward the same goal."

Available resources. Three types of resources were identified in the responses. Participants expressed concern about financial resources in terms of how much exhibits would

cost to produce and how much funding would be available. The participants also considered human resources and whether there would be adequate staff and/or volunteers to produce, maintain and staff the exhibit. The time to produce an exhibit was another resource identified by the participants.

Duration of exhibit. The length of an exhibit's scheduled run was considered a factor. The participants stated that they were mindful of whether the exhibit was to be short term or permanent in its duration. One respondent noted that s/he would not address the minor mistakes in a completed exhibit if it was only scheduled to run for a three to six month period.

Technical and design considerations. Technical and design considerations were included as key factors by some of the exhibit planners. The participants offered various examples of the factors they considered. These included such technical elements as traffic flow, visibility of the exhibit components, the plan of the building, lighting and electrical requirements as well as the time it would take to view the exhibit.

Subject matter. The subject matter of the exhibit was explicitly stated by only a few of the participants. One of the planners expressed this in terms of whether there were sufficient objects in the collection to support the exhibit topic. Another participant examined what was missing in their museum's current repertoire of exhibits and how it could be successfully filled. However, it was evident that

many of the participants did find the subject matter of the exhibit to be an important factor since there was considerable concern over what visitors would find engaging, relevant and appealing.

Communication. Communication was a noteworthy factor to some of the exhibit planners. A few stated that they were conscious of the message that the exhibit would be communicating to visitors. Another participant thought about communication from a different perspective: "Communication between the various departments - education, design, curatorial staff, funding bodies, etc. to ensure that the exhibit [sic] is developed as professionally as possible."

Market competition. One exhibit planner took into account market competition when planning exhibits. For this participant, other entertainment and education venues were among the factors kept in mind.

Some of the participants offered responses that did not reflect clearly defined factors. For instance, one respondent said that they took cues from their "gut instinct". Another exhibit planner explained that they were just learning the process, so direction from the museum director and input from other staff members were perceived as the most important factors. Thus, input from both the self and other staff members emerged as significant factors.

An extensive checklist of items to be considered during exhibit planning was included by one participant. Called "filters", the list was issued by the museum to staff members

and was intended to guide exhibit development. The list included many of the factors identified in this study, such as relevance, appeal, and educational goals. However, as this participant describes, these filters have not been used explicitly:

“At the very beginning of our Concept Development we created a list of filters for the exhibit and design. We were suppose [sic] to use them to make consistent decisions and to stay on track. In the three+ years I have been here I never saw them used explicitly - pulling the filters out and checking to see if the exhibit passes.”

The existence of the list of “filters” seems to suggest an awareness of important exhibit planning factors, but the practice of implementing these into the exhibit planning decision making process did not necessarily follow among the staff involved.

Interpretation. Analysis of the responses revealed a great deal about the way the participants viewed their visitors while planning exhibits. The participants were conscious of their target audience; this was expressed as concern about the needs of various age groups and intelligence levels among museum visitors. The participants were aware of the diversity of their audiences and wanted to provide exhibits that would address a broad range of needs.

The concepts of a target audience and diversity among the members of this audience reflect the modern view of mass

communication. As Hooper-Greenhill (1994b) observes, the mass communication audience that was once perceived as a large, undifferentiated mass is now seen as being comprised of smaller groups, each with their own needs. The responses given by participants were consistent with this view.

Planning exhibits that were not only appealing and attractive to visitors, but also relevant to visitors' lives and the goals of the museum was considered important to the participants. This was significant for a couple of reasons. First, it demonstrated that exhibit planners were attempting to understand the exhibit experience from the perspective of the visitor. In the post-modernist ideology, this signals a shift of power and control away from a central authority (the exhibit planner) and toward the individual (the visitor). This becomes particularly evident in the cases where input from visitors was sought during the planning process.

Second, the responses suggest that planners are attempting to strike a balance between what is engaging for visitors, yet fulfills the educational goals of the museum. As authors such as Belcher (1991) and Screven (1993a) have noted, many museums find it necessary to make exhibits entertaining, particularly in the face of competition from other leisure activities. Yet there has been concern expressed in both the literature and among museum professionals that entertainment should not be pursued at the expense of education (Screven, 1993a; Museum-L on-line debate, October, 1997). The responses given by participants

seem to indicate that exhibit planners are trying to produce exhibits that are both educational and entertaining. The participants are not only aware of the competition that exists outside their institution, but also of the danger that exists in "dumbing down" exhibits to play to the lowest common denominator.

A number of authors have observed in the museum community a greater awareness of the concept of communication (Belcher, 1991; Hooper-Greenhill, 1994a; Weil, 1990). This was also evident from the participants' responses in this study. Respondents indicated that they were conscious of the intended message of the exhibit they were planning; this is indicative of at least a basic, working knowledge of communication theory. Interestingly, one participant discussed the communication among staff members rather than between the exhibit and visitors. Given the prevalence of exhibit planning teams among the participants and the problems that can arise from inadequate communication, this was a significant factor to bear in mind.

The planners identified a number of factors that may be considered constraints. Scheduling, funding, human resources and technical or design requirements were described as factors that limited and guided the exhibit planning process. Of these, the financial restraints on exhibit planners is perhaps the factor most commonly mentioned in the literature. The decrease in financial resources available to cultural institutions has been well documented (McManus & Miles, 1993;

Williams & Rubenstein, 1993; Zyskowski, 1983). This in turn impacts the funds that are available to develop and maintain exhibits; clearly, the participants in this study are mindful of such limitations.

That the subject matter of the exhibit was not a universal factor identified by the participants raised some questions during the analysis. It was expected that the exhibit's topic would emerge as a common factor, yet only a small minority of the participants specifically identified subject matter as a factor they consider while planning exhibits. However, the responses did implicitly address the subject matter factor in so far as the participants were concerned with planning exhibits that would be interesting, appealing and relevant to visitors.

It is also possible that the participants, who were mainly in leadership positions, did not themselves deal directly with subject matter and content decisions and so did not discuss these factors. This may also explain why many of the respondents seemed particularly conscious of the resources available, since this would fall under their domain. Because the participants were asked to identify and describe the factors they personally considered while planning exhibits, the factors that lay outside their immediate area of responsibility were perhaps excluded.

Although factors related to museum visitors were identified by the participants, it was also evident that other factors come into play when planning exhibits.

Practical considerations such as constraints on resources and technical requirements also impact exhibit planning decisions. The responses received in this study suggest that exhibit planners balance the interests of the visitor with the limitations placed on the museum and exhibit planning team.

Objective #3

The third objective of this study explores the nature of relationship between the visitor and the exhibit planning process. Specifically, it asks what role the visitor plays during exhibit planning, whether information about visitors is used during exhibit planning, and whether the practices of exhibit planners are centered around the visitor. To address these issues, a number of questions were posed to the participants.

The exhibit planners were asked to identify who, other than their colleagues, they consulted with when planning exhibits. The participants identified three types of consultants:

1. Specialists/experts
2. Intelligent non-specialists
3. Community members

Specialists/experts. Many of the planners identified specialists or experts as the people they consult. These included both subject matter experts and specialists who

could assist with various aspects of the exhibit, from design and budget planning to education and programming.

Intelligent non-specialists. Some of the planners sought the input of, in the words of one participant, "intelligent non-specialists"; friends and family members who were professionals in fields not related to museums or the subject matter of the exhibit. This could also include other museum staff members who were not involved in the planning decisions. One participant offered a reason for seeking this type of advice, specifically from family members: "...the feedback is immediate, direct and unfiltered by any reserve or politeness." Thus, the convenience and frankness of such input was regarded as valuable.

Community members. A few of the participants stated that they received input from members of the community. While one described the use of focus groups to gather this information, the others indicated that they use a more informal approach to consulting with potential exhibit users, such as parents, children, and teachers.

To explore the input of museum visitors further, the participants were asked whether their institution seeks feedback from visitors. The majority of respondents indicated that some form of feedback system was in place at their institution. This feedback could be obtained from visitors through either informal or formal methods.

Informal methods. The majority of participants described informal means of seeking visitor feedback. These

methods did not employ a systematic, objective procedure for collecting the information.

Visitor comment books or boxes emerged as a prevalent practice. Many of the participants described this type of system as the one being used to solicit feedback. One respondent gave the following description of the system used at their museum:

"We also offer 'talk back' boards and more anonymous 'To the Director' forms in several locations to offer visitors a voice. The 'talk backs' get a written response and get reposted, and the 'To the Director's [sic] get a phone call or a letter addressing [sic] their concerns."

Some of the planners took note of the drawbacks of this type of feedback.

"...receiving little serious feedback."

"Soliciting feedback is easy, but responding and using it takes more energy."

Although many stated that visitor comments were collected, few of the participants offered information about how the information was used. One planner indicated that the feedback gathered was discussed at monthly directors' meetings. Another stated that the results were typed up and circulated among staff members.

Another informal way of gathering visitor feedback was through casual observation and interactions with visitors while they are in the exhibit environment. The participants

stated that they would watch visitors' behavior, listen for comments, or engage in conversation with the visitors to obtain feedback. One participant noted that at their museum, "...gallery tours given by the curator provide an opportunity for the public to pose questions as well as opinions." In addition, some of the planners relied on reports from the floor or exhibit staff who are in direct contact with the visitors.

Formal methods. In a few of the museums, more formal methods of obtaining visitor feedback were employed. This included the use of focus groups, evaluations, and visitor surveys to gain ideas for improvements and identify problems with the exhibits. Some of the planners indicated that these formal measures were only taken with school groups and not with casual visitors.

That few of the museums used formal evaluations with their visitors was confirmed by a direct inquiry to the participants regarding this practice. When asked whether their institution had ever used formal exhibit evaluations, the majority of the participants stated that they did not. Some did not perceive any need for formal exhibit evaluation, preferring to employ informal means of evaluation.

"When we have done formal surveys they didn't tell us much we didn't already know."

"But I find in many cases the evaluation results provide specific data that only back up the informal conclusions

we all came to within hours of watching kids use something."

"I don't know if I would find them helpful - the principal critics of my exhibit were myself and the public."

Others criticized the method used for evaluation at their institutions:

"Personally, I find the evaluations do not provide incredibly useful information. The sample sizes are typically too small - meaning the scope of the evaluation was to [sic] large for the available resources."

"We had a formal evaluation of the whole experience done 9 years ago by a group from a university Education dept. ...It was truly awful, a close goaled, didactic based assessment. Our goal is not to convey facts, although that happens. We want to change attitudes."

Thus, this planner expressed frustration that the evaluation was not designed to measure the intended goals of the exhibit planners.

Another source of frustration for the planners regarding their experience with exhibit evaluations was that the information gained could not be applied.

"It also feels like we can either evaluate or remediate, but rarely both."

"Even if you believe the conclusions from the evaluation we have no money to make changes."

Indeed, many of the participants stated that limited funds and time prevent them from making changes to exhibits once they have opened to the public.

One planner stated that the information gained from evaluation is of little value when planning exhibits.

"...evaluations seem capable of providing a 'useful' document when dealing with outside sources - funding, etc. Evaluators give you a product you can work with instead of one you can really work from."

Of the planners who did support the use of formal evaluations at their museums, some did so with caution.

"It's hard to find people capable of being neutral enough to do the work properly, but once found you can learn amazing things by testing out mock-ups and prototypes."

"They [exhibit evaluations] are excellent resources if they are good."

"I do consider them to be helpful to make sure the point you want to make is the one people are walking away with, but the other side of the coin is to make sure they are not so heavily depended upon the information in the exhibit winds up being "dumbed down."

Still others found exhibit evaluations to be helpful in their work, particularly if the evaluations occurred in the early stages of planning.

"It's important to involve evaluators early on."

"Only in prototyping. This front-end work is invaluable."

From the information received, the participants generally favored informal means of collecting information about visitors. Although a fraction of the participants found the more formal techniques of surveys and evaluations to be helpful to their planning decisions, many of the participants saw little need for employing these techniques. This preference for informal information gathering, through casual observation and conversation, seems to parallel the informal approach to using visitor information during the planning process. Few of the participants stated that they integrated formally gathered visitor information, from comment boxes, evaluations, focus groups and the like, into their planning decisions, yet visitor issues emerged as a central factor considered. This suggests that while the participants feel they are cognizant of the various expectations, abilities and characteristics of their target audience, this information was typically not obtained in a systematic way.

When the participants were asked to identify the factors they considered important during exhibit planning,

only one participant explicitly stated that visitors suggestions were considered. However, many of the planners identified visitor related factors.

Interpretation. Early models of exhibit planning excluded the visitor from the decision making process. Exhibits were planned from the perspective of the museum; the goals of the curator and designer were considered, not those of the visitor (Hooper-Greenhill, 1992; Miles, 1993a). Thus, input from visitors was not sought. Over time, greater emphasis has been placed on visitor feedback at several points during exhibit planning. During the 1990s, the conception of the visitor's role has evolved into the post-modern idea of an active visitor: one who openly questions and challenges curatorial authority (Hooper-Greenhill, 1992, 1994b; Volkert, 1991; Weil, 1990).

The concept of visitor feedback was firmly entrenched in the exhibit planning practices of the participants of this study. Although the form this feedback took varied from simple comment books to more elaborate methods such as surveys and focus groups, it was significant that visitors were provided with an avenue for voicing their opinions.

In some instances, the feedback channel was directly linked to the decision makers. The use of "talk back boards", letters to the director and curator-led exhibit tours allow visitors to enter into a dialogue with the individuals involved in exhibit planning. Visitors express their concerns, questions, and opinions in a public forum

where they will have their issues addressed. In this sense, the museum becomes a center for public debate, as Esteve-Coll (1993) had noted.

The existence of such feedback mechanisms is evidence of the post-modern view of the visitor's role that was found in the literature. The establishment of a channel for the visitor to contact exhibit planners signals the erosion of the traditional barrier between the private domain of the planners and the public domain of the visitor, at least at some institutions (Hooper-Greenhill, 1992). Numerous participants stated that they gained valuable information from observing and conversing with visitors. Clearly the exhibit planners were not staying behind the scenes, isolated from visitors, but rather were seeking out opportunities for contact.

The timing of feedback provided some insight into the role of the visitor during exhibit planning. For some of the participants, feedback was sought in the early stages of planning and was perceived as valuable in their work as planners; visitor input was an integral part of exhibit development. But in many cases feedback was collected after exhibits were open to the public. Since many of the respondents indicated that constraints such as time and funding prevent modifications from being made to exhibits once opened, feedback at this point comes too late to significantly impact decision making. Despite this, the collection of visitor feedback is apparently a routine part

of exhibit operations at the institutions examined in this study.

The feedback collected after exhibit opening is not always used to make changes to an existing exhibit. Why, then, is it collected? The answer may lie in the perception that the participants have of their visitors. In describing the factors that they consider while planning exhibits, the participants exhibited an awareness of their target audiences. Yet few of the participants indicated that they use any formal means of evaluation or feedback during the planning of an exhibit. It is possible that the feedback gathered after an exhibit is completed provides useful information for the planning of future exhibits.

That exhibit planners shape their own view of visitors without input from formal evaluation has been found in the literature. Knott and Noble (1989) observed that exhibit planners generally presume that they know what visitors need and so do not believe evaluation is necessary. This idea was expressed by some of the participants who stated that they preferred their own subjective observations or "gut instinct" to more formal means of evaluation. Numerous authors have stated that exhibit planners' perception of visitors is shaped by the advice of specialists and by contact with other scholars, professionals and museum staff (McManus & Miles, 1993; Reich, 1988; Screven, 1993b). The participants in this study were no exception. Many indicated that they consult with specialists, other staff members and friends or family

who are professionals outside the museum. Thus, there was evidence to suggest that the perception of visitors by the participants is influenced by input from non-visitors.

Although visitor feedback was not consistently sought during the decision making phase, the role of visitors in exhibit planning was reflected in the responses of the participants. The exhibit audience is kept in mind during planning, although the profile used by some planners is subject to external influences. Nevertheless, there is evidence that at some institutions systematic, objective means of obtaining visitor feedback are employed. Furthermore, the concept of the active visitor appears to have emerged in the actual practices of museums.

Objective #4

The final objective of the study was to discover whether current exhibit planning practices followed the exhibit planning models found in the literature. To determine this, participants were asked questions regarding various aspects of their exhibit planning experience, such as how they approach the planning of a new exhibit. And since many of the models include the use of feedback in the form of evaluation, the planners were probed for their experiences with and attitudes towards this issue.

In describing their approach to exhibit planning, the responses given by the participants showed some variation.

However, analysis of the responses revealed that generally the following basic steps were taken when planning exhibits:

1. Theme/idea development
2. Development of a plan
3. Design development
4. Exhibit production
5. Exhibit opening

Theme/idea development. Developing the theme or idea for the exhibit was the universal first step identified in the exhibit planning process, although the institutions varied concerning the type of input that went into these decisions. Numerous participants stated that exhibit ideas came from members of the staff. These may be born out of brainstorming sessions in which various staff members contribute ideas. At one institution, the staff members submit a list of ideas from which a selection is made. Other museums have an individual staff member who occupies a leadership role, such as the director, curator, or other "strong staff advocate", who selects an idea and proposes it. A few of the participants stated that they used input from visitors to formulate ideas for exhibits. This information was gathered through focus groups or visitor surveys.

The participants identified various factors that guide their decisions around selecting themes for exhibits. Other than the aforementioned direct input from visitors, the participants also considered factors such as the age,

interests and demographics of the target audience. Goals emerged as another important factor and included not only educational and communication goals but also the museum's mission. Some of the planners kept in mind other exhibits within the museum or any upcoming special events and tailored the exhibit themes to coordinate with these. As one participant summed up:

"First it is important to determine what the exhibit is trying to say and why - how is this exhibit a part of the overall mission of the institution, how it will work with the rest of the museum, and what will set it apart. State very simply what its purpose and message will be, and who it will be for."

A final approval stage for the exhibit ideas generated out of this development process was described by some of the participants. Typically the decision making authority lay with a governing body, such as the director, the board, or an exhibit committee.

Development of a plan. Once the central idea or theme for the exhibit is selected, many of the participants described a process of plan development. In some cases, this involved setting up a schedule or time frame for the project. For others it involved coordination of the exhibit team members and the defining of roles and responsibilities. It is at this point that budget decisions may be factored in.

Further refinement of ideas and details may be determined through regularly scheduled staff or committee

meetings. At some of the institutions, a detailed design or concept brief is drafted to guide the process of exhibit development. One participant supplied the outline used by their institution for such a document. This outline included all the major decisions made regarding the exhibit, from the purpose and the budget to the timeline and the order of installation. Although not all of the participants described the use of such a detailed document, many indicated that a document or outline of some form was produced and used as the basis for exhibit development.

Design development. Some of the participants did not describe a plan development process and instead moved directly from initial idea formulation to the development of the exhibit design. For those who went through a plan development stage, design-related decisions followed after the exhibit plan or brief was defined.

During this stage, design ideas are developed and proposed. Often, this involved the use of schematic diagrams or similar documents. Approval for the exhibit design may come from the director or from a committee overseeing the exhibit. At some of the institutions, prototypes or mock-ups are produced and input is sought. This input may come from visitors, but may also come from volunteers. One participant describes the reason why their institution utilizes prototypes:

"These prototypes or mock-ups, are tested to determine whether or not the exhibit designs meet the educational

goals, and whether or not visitors understand and enjoy using them. This evaluation information is fed directly back into the design process to increase the effectiveness of the final exhibit."

For the participants who reported that their museums employed formative evaluation, the feedback collected was used to make modifications to the exhibit design.

Exhibit production. During exhibit production the various components that will appear in the final exhibit are produced. Objects are collected from within the collection and loans of objects from other institutions are arranged. The text that will be used in the exhibit is written and revised until the final label copy is produced. Some of the participants stated that drafts of the text will pass back and forth among various staff members, such as the curator(s), designer, director or even an external editor that is hired for this specific task. As well, the physical components of the exhibit, including graphics and software, are produced and installed during this stage.

Exhibit opening. The final stage of exhibit planning described by the participants was the opening of the exhibit to the public. Some of the participants made the point that the process of exhibit planning does not necessarily stop at this time.

"Finished Exhibit - the exhibit after it has been evaluated and has worked on the exhibition floor for

three continuous months without any modification. (This can take a long time)."

For this institution, the exhibit is not considered to be finished until all the staff are certain that the modifications are complete. At another museum, the exhibit first goes through a "soft opening" with the public. Prior to the official opening, feedback from visitors is obtained and used to make modifications. Thus, planning related decision-making was found to continue after exhibit installation.

The presentation of the exhibit planning process as discrete steps is representative of the vast majority of the responses. However, it is important to acknowledge that there were some exceptions. In one case, a participant stated that there "are no basic steps" to exhibit planning at their institution. And at some museums, it was apparent that design development was occurring in tandem with other aspects of exhibit production, most notably content research and decisions. This was the equivalent of combining the third and fourth stages of exhibit development.

As mentioned earlier, most of the participants reported that their institutions did not employ formal exhibit evaluation. Of the ones that did use it as a routine part of their exhibit planning, an external evaluator may be contracted, although in-house evaluation was more common. Evaluation was incorporated at various points of the process. A few described it as being used only in a formative manner

to test prototypes of the exhibit components. At others, visitor-based evaluations of the exhibit only occurred after opening to the public. However, for one participant evaluation was part of all stages of exhibit development:

"During this process, front end, formative & summative evaluation are carried out, in addition to constant community consultation & regular consultation with a reference panel."

Most of the exhibit planners seemed to favor a more informal approach to obtaining feedback about their exhibits, such as informal observation, visitor comment books, and conversations between staff and visitors. Generally, these methods for obtaining feedback that were described by participants occur after the installation and opening of an exhibit.

Since much of the feedback received by exhibit planners was received essentially after exhibits were finished, the responses were analyzed to determine whether this information was used as a form of remedial evaluation. Participants had been asked whether they ever made changes to their exhibits after opening to the public. In response to this question, some of the respondents did report that they modify exhibits after receiving visitor input.

"Yes, all the time, people may contribute to an exhibit after visiting it."

"In the exhibit I'm working on right now I already anticipate reworking the labels after talking to visitors to get their input."

Some of the participants stated that they would change label copy to address errors that visitors had brought to their attention. However, if the complaint was about a single typographical error or if the exhibit was short term, such a modification may be overlooked.

Exhibits may also be revised to improve communication between the exhibit and visitor.

"If the 'message' is not coming across as intended, any changes that are feasible are made."

"For some exhibits, the design evolves to contend with mechanical problems or to better convey the concepts that the exhibit represents."

Changes may also be made to particular exhibit components that do not function as intended.

"There are some things that simply don't work out and those are generally removed and/or replaced."

"No matter how well you plan, at the very least some things wear poorly, or that latch isn't heavy enough or something."

Thus, the participants described various scenarios in which the function of the exhibit could not be accurately assessed until it was exposed to actual visitors.

Although many of the participants identified the need to make changes after the exhibit opens, even more participants identified barriers that prevented them from making the desired changes. Essentially there were three main factors that impeded modifications. First, the design of the exhibit itself may not be conducive to remedial changes. Some participants find it necessary to integrate modifications into their exhibit plan.

"The smart thing to do is to always plan to make changes, and to build exhibits in such a way that changes are easy to accommodate."

Second, time constraints often prevented the participants from making changes to exhibits. As one participant observed, changes are not made "unless something drastic required it -- there's just no time."

But probably the most significant barrier to exhibit modifications encountered by the participants was insufficient funding. Many said that they would make changes to exhibits if there were money available. One planner suggested that ideally fifteen percent of the exhibit budget should be set aside for remediation, but also added that "most folks are scrambling for the money to get an exhibit in and up in the first place." For some of the planners, the lack of money for modifications was a source of frustration.

"It's one of the worst aspects of the job, actually, to know that with just a few changes the exhibit could be

perfect, yet museum directors won't let you do it. It is as if they don't really want great exhibits.

...directors won't LET you go back in and make changes 'cuz the money's already been spent and [they] are thinking about the 'next big thing'."

It became evident from the responses of the participants that they recognized a need for changes to be made to exhibits after opening, but that circumstances outside of their control often prevented them from doing so.

The participants in this study generally did not engage in formal evaluations on a regular basis, yet most had reported their exhibits often were in need of improvements or modifications. The data was therefore analyzed to determine what criteria the planners were using to make judgments regarding an exhibit's effectiveness.

When asked how they knew when an exhibit was successful, the participants offered a wide range of responses. Consistent with the responses to some of the other questions, few of the participants stated that they used formal evaluation techniques. When these methods were in place, they were used to assess whether the goals of the exhibit were achieved. Not all of the participants defined these goals, but the ones identified included educational and cognitive goals, communication goals, and "affective consequences".

The use of visitor feedback, obtained mainly through comment books, emerged as a popular means of making these

judgments. Likewise, informal observation techniques were also utilized.

"I use my highly subjective observations of how visitors to the Science Center react to each exhibit."

"By watching it. I find my gut reaction after watching an exhibit get used is a pretty good indicator."

"I look for smiles on kids faces, people stopping and reflecting on things they hadn't considered, good publicity and public interest, kids not wanting to leave, and people getting so involved they lose track of time."

Thus, these participants described subjective rather than systematic, objective methods of observation.

Another form of observation used by some of the planners focused on how exhibit components are used. As one participant stated, an exhibit is successful "when it gets broken a lot! ...A good exhibit gets used, wears out and dies." While wear of exhibit components is one measure of success, another is how the visitors interact with the exhibit. In the words of another participant, an exhibit is successful when "...visitors continually surprise and delight us with the way it is used."

Many of the participants identified peer approval as a noteworthy measure of success. In one case, the participant stated that members of the staff were provided with

evaluation forms and are asked to report what doesn't work. For other participants, self evaluation was the criteria used.

"We love it."

"You can just feel it... you know because it's really pleasing and interesting to you."

"The most personal sense of success, for me, is whether the exhibits are good [sic] as they can be - given the restraints on their creation."

For one of the planners, part of an exhibit's success stems from a "positive team experience."

In some cases, the exhibit planners in this study identified concrete means of measuring success, such as visitation numbers or local press interest. However, many of the planners provided rather subjective criteria for success, and no indication of how these could be measured.

"When it inspires and motivates."

"My criteria for success are that the visitor enjoys themselves...Our role is motivational [sic] if I got as far as 'I could do that' then I've won."

"Visitor's emotional response [sic] to the exhibit."

"Visitor's connection of exhibit to their personal life."

The participants' responses indicated that although awareness of exhibit evaluation is widespread among museum professionals, it is not practiced to the same degree. In fact, many participants were resistant to the idea of implementing formal objective measures of evaluation, preferring the use of informal, subjective methods. These responses were consistent with the criteria used to judge the success of exhibits. Although some participants provided clearly defined standards that their exhibits should meet, most described highly subjective guidelines.

Interpretation. No two respondents describe the exhibit planning process in exactly the same way. Different terminology was used to depict the basic steps of planning an exhibit. However, amid these varied responses, a pattern of the basic process emerged. This took the form of an ordered, relatively linear sequence of stages, from initial concept formation and plan development to design decisions and production, all leading to the final exhibit opening. Although it was evident that the participants generally followed a similar sequence, this did not suggest that only one model of exhibit planning was being followed. Interpretation of the responses required that attention be paid not only to the steps followed, but also to who was responsible for the particular tasks during planning. Bearing this in mind, the practices of the participants in

this study seemed to reflect elements of various exhibit planning models found in the literature.

Since many of the models incorporate feedback, examination of how this was used by participants was an important consideration. Analysis revealed that feedback could be incorporated at three points during exhibit planning: during the initial idea or theme development, during design development, and after the exhibit was opened.

A small minority of the participants obtained feedback from visitors at all of these points. In some cases, feedback was only used during the early stages of exhibit planning. When it occurred at the outset of planning to gain input on possible exhibit concepts and check on the visitors' interest and knowledge, feedback was being used in a manner consistent with the concept of front-end evaluation. When used to test design ideas through prototypes or mock-ups, the participants were describing the use of formative evaluation.

For the most part, the use of feedback was concentrated at the end of the planning process, after the exhibit was opened. The literature describes two ways that feedback can be introduced at this point. Summative evaluation is used to evaluate the impact and effectiveness of an exhibit after it is installed, but is not associated with immediate plans for making improvements (Bitgood, 1990; Screven, 1993b). In remedial evaluation, the feedback obtained from visitors is used to modify the existing exhibit (Bitgood, 1990; Screven, 1993b). Evidence of both these methods was found among the

participants' responses. Some of the participants indicated that they do make changes to exhibits after receiving visitor input. In the case of one participant, this process could take a prolonged period of time as exhibits were not considered finished until they did not require modifications for a period of at least three months. In many instances, participants expressed a desire to make such modifications, but due to constraints were not able to do so. This amounted to an interruption in the feedback loop; planners have an awareness of the changes that are required, but are unable to act. For others, the feedback collected after exhibit opening, either through informal means such as comment books and observation of visitors or formal summative evaluations, was used as a measure of success and was not intentionally used to make changes to the exhibit.

Just as the participants utilize feedback and delineate responsibilities differently, so do the various exhibit planning models found in the literature. Through analysis, it was apparent that the practices of the respondents had distinct similarities to many of the models.

Bitgood's (1990) model of exhibit and program evaluation divides exhibit development into three main stages: planning, preparation and post-installation. The sequence of steps that emerged from the participants' responses correspond well to this model. Development of the initial idea or theme and the overall plan is similar to Bitgood's first stage, while the design development and exhibit

production steps fit into the second stage. At each stage, the model combines input from both professionals and visitors. This was a good match to a small portion of the responses in which the participants indicated that specialists, other staff and members of the public were consulted during the entire exhibit development process.

The Bitgood model was not a good match for all of the responses. This was largely due to the way responsibilities were delegated. In the model, input is sought from both visitors and professionals before the exhibit message, goals and objectives are defined. But at some institutions, the goals and intended message are set by one person. At other museums, a group of staff members contribute to these decisions, but direct visitor input is not included.

Another reason that the Bitgood model is not reflective of all the participants' practices is that it relies on formal evaluation methods. The responses in this study indicated that while informal feedback mechanisms were commonplace, the more systematic approaches were not. Moreover, the participants expressed little interest in adopting the formal methods. It is interesting to note that this model, unlike the others found in the literature, does include a provision for critical appraisal. That is, problems with the exhibit are identified through professional consultation, not visitor input. Since many of the respondents indicated that they seek peer approval and consult with other professionals, this is certainly a

practice worth noting. The Bitgood model bears some similarities to the practices of the participants in this study. However, not a single institution was found to have implemented all of the elements contained in this model.

In some ways, the Smithsonian model (Miles, 1993a) is a better approximation of the respondents' practices than the Bitgood model. The Smithsonian model is hierarchical, with a clearly defined leader who initially commissions the exhibit and sets the deadlines and policies. At a lower level is a project manager who keeps the project on schedule and within the defined budget, and is a liaison between the leader and other staff members. At the lowest level of the hierarchy are the content, design and audience experts, who work cooperatively to develop the exhibit within the boundaries set by the higher level decision makers. Furthermore, input from visitors, if sought, would only enter the system through the lowest level of the hierarchy through the educator or evaluator. Thus, neither staff members nor visitors would directly contribute to the direction that the leader sets for the exhibit.

Unlike the Bitgood model, the Smithsonian system focuses on the organizational structure of the exhibit planning team; the sequence of exhibit development flows from this structure. Some consistency between this model and the participants' responses was detected. It was evident that some museums employ a leader who is solely responsible for deciding the exhibit theme and has authority over the rest of

the team. As well, the division between the leader and project manager was identified by many respondents. But what is particularly significant about the Smithsonian model is the structure of the hierarchy's lowest level. The curator, designer and educator/evaluator are all on the same level and work simultaneously. In the responses of some of the participants, it was apparent that the design and content research were occurring at the same time, with input from the education specialist being incorporated into this process. Also, the input regarding visitors enters the system through the audience experts, the educator or evaluator; the model does not specify that the input must come from direct visitor input. Since many of the respondents relied on input from education specialists when making planning decisions, this portion of the model is particularly significant.

One major drawback in applying the Smithsonian model to the responses is that it fails to emphasize the exchange of information among team members. With the exception of one participant who noted the territoriality among staff at their museum, the dominant pattern that emerged from the responses was that staff members gain input from each other through brainstorming, meetings, and passing ideas back and forth. The Bitgood model acknowledges the input of professionals into the decision-making process, but does not depict this interchange of ideas. The multidirectionality of the London approach perhaps addresses this concept best.

In the London system, exhibit planning centers around the exhibit brief, a document that outlines the project and its management (Miles, 1993a). A non-curatorial, senior member of the exhibit team acts as the leader or "exhibit brief writer" and keeps the project on track. The staff members who specialize in various aspects of exhibit development, such as curators, designers, researchers, educators and evaluators, all contribute to the development of the brief before the exhibit proceeds into production. The key aspect of the London system is its multidirectionality; ideas for the brief are exchanged back and forth among the team members. In addition, the input of the evaluator, and therefore the visitor, is incorporated during the early planning stages as formative evaluation rather than at the end in a summative form.

A number of the responses from participants conformed to the London model of exhibit planning. The use of a brief or document that outlined the goals and plan of exhibit development was evident, as was the existence of a non-curatorial leader. Indeed, one participant even referred to this individual as the "Project Brief Writer," terminology that is strikingly similar to that used by Miles (1993b).

The non-curatorial leader is a significant concept, given that the more traditional approaches to exhibit planning place the curator in the leadership role. Both Screven (1993b) and Miles (1993b) have suggested that leadership responsibilities be shifted away from curators,

thus freeing them to practice within their primary domain of specialization. While there was evidence of this shift amid the responses of participants, there were still museums that placed the curator in the role of leader. This may be interpreted as the persistence of the old, traditional approaches to exhibit planning. However, it is also important to consider the size of some of the institutions represented in this study. In museums with small staff sizes, it is less likely that a specialized, non-curatorial leader can be appointed.

The London system emphasizes evaluation during the formative period rather than at the completion of the exhibit (Miles, 1993a). This is particularly similar to the practices of a few respondents who employed evaluation only to test prototypes of exhibit components. Given that many participants found it impossible to make changes to exhibits after opening to the public, shifting evaluation to an earlier stage of planning seems to be more consistent with the practices of actual planners.

Analysis revealed that the actual practices of exhibit planners did not follow one particular model. Rather, elements of various models found in the literature exist simultaneously among the institutions studied. Strict adherence to the models found in the literature was not observed. It appeared as though planners follow the general principles that are inherent in various planning models, but have adapted their practices to suit the particular needs of

themselves and their institutions. This could be due to a number of factors. Constraints, such as time and finances, inhibit the implementation of modifications and evaluation. Museum size places limits on the staff available to take part in exhibit planning. And personal preferences of the exhibit planners regarding feedback techniques profoundly affects how exhibits visitor input is gathered and incorporated. These factors impact the process that is used to develop and produce exhibits. Therefore, although many of the ideas found in recent exhibit planning models have been implemented, these models would need to be adapted to accurately reflect the current practices.

CHAPTER 6

Summary and Recommendations

Since the 1960's, the literature pertaining to museum exhibit planning has depicted the role of the visitor as one of ever increasing importance. Previously, visitors were not accorded any attention during the planning process, but as the educational function of the museum evolved, the concept of using visitor input to assist in planning exhibits emerged. During the 1990's, several authors have espoused an enlarged role for the visitor, one in which the visitor is an active part of the communication process that occurs during exhibit planning.

This chapter first summarizes the methodology of the study. Second, a comparison is drawn between the exhibit planning theories found in the literature and the actual practices of the participants. Third, the computer-mediated methodology employed in the study is revisited and its utility in social science research is assessed. Finally, recommendations for further research are presented.

Summary of the Methodology

The primary purpose of this study was to explore current exhibit planning practices, with particular emphasis on how the visitor's role was defined by exhibit planners. Recently published theories have suggested the visitor should take an active part in defining the message presented by museum exhibits, yet evidence of these ideas being put into practice

was lacking in the literature. The study was therefore undertaken to determine whether the practices of exhibit planners reflected the ideas presented in the literature.

To this end, four objectives were formulated to guide the investigation and analysis. These objectives were as follows:

1. To ascertain the identity of decision makers in the exhibit planning process.
2. To identify and describe the factors considered by exhibit planners when developing exhibits.
3. To determine (a) whether visitor-centered planning approaches are practiced by exhibit planners, (b) what role visitors play in the exhibit planning process, and (c) whether information about visitors is used during exhibit planning and if so, how is this information obtained.
4. To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

Exploration of the visitor's role in exhibit planning was justified given that museum exhibits are intended for public viewing; the visitor is the primary consumer (Belcher, 1991; Knott, 1992). Additionally, visitors are the financial lifeblood of museums through their voluntary payment of admission fees and donations (Donahoe, 1988; Linn, 1983). As competition for consumers who participate in leisure time activities grows, museums face even greater challenges in

attracting visitors (McManus & Miles, 1993; Screven, 1993a; Williams & Rubenstein, 1993, Zyskowski, 1983).

In the wake of changing economic and social climates, it appeared that a new perspective on the museum visitor was emerging. Fueled by post-modern ideology, authors such as Hooper-Greenhill (1992, 1994a, 1994b), Weil (1990), and Volkert (1991) proposed that the visitor be given greater access to the museum's traditionally private spaces and processes. Not only would visitors be allowed behind the scenes, they would also help formulate the exhibits by providing input and feedback. In this way, the power held by exhibit planners would shift, resulting in a more balanced communicative act between exhibit producer and exhibit consumer. Although such ideas have been put forth in the literature, it was not clear whether exhibit planning practice had followed suit.

The lack of research in the area of exhibit planning practice precluded the use of an existing instrument. Therefore, using established qualitative methods as a basis, exhibit planners' experiences and attitudes were explored through open-ended inquiry. Communication with the participants, recruited from seven electronic newsgroups and mailing lists dedicated to historical or museological topics, was conducted via electronic mail. The gathered information was analyzed to develop a picture of exhibit planning practices in the present day museum, specifically focusing on the contribution of the visitor.

Exhibit Planning Theory and Practice: A Comparison

Traditional approaches to exhibit planning excluded the visitor. Decisions regarding exhibit topics, content and design were made by museum staff without the input of visitors (Doering & Pekarik, 1993; Hooper-Greenhill, 1992; Knott, 1992; Miles, 1993b; Screven, 1993b). Despite growing research interest in visitors recently, Screven (1993b), Hooper-Greenhill (1992) and Miles (1993b) have observed that the top-down, traditional approach persists and planners generally do not practice visitor inclusionary methods of exhibit planning.

From the responses of exhibit planners in this study, it was not evident that the top-down model in its strictest form was being practiced. Although not all of the exhibit planners in this study employed formal means of collecting input from visitors, gathering feedback in some form was virtually universal. Furthermore, the visitor emerged as one of the key factors that the planners were mindful of when planning exhibits. A consciousness of the exhibit audience's interests, needs and diversity was apparent from the responses. Thus, the complete exclusion of visitor's goals and interests in favor of those of exhibit planners, as seen in the top-down model of exhibit planning (Miles, 1993b; Knott, 1992) was not evident.

The act of collecting visitor feedback was not always synonymous with practicing visitor inclusionary planning methods. The application of this feedback also had to be

considered. In many cases, the collection of feedback came only after exhibits were open to the public. Since many of the participants stated that constraints on time and money prevented modifications from being made to existing exhibits, feedback collected at a late stage of exhibit development proved to be of little practical value. Moreover, visitor input of this variety does not greatly impact exhibit planning decisions. So although the existence of feedback mechanisms is significant in that visitors are provided with a voice for expressing their opinions, it does not necessarily confer a great deal of decision making power on visitors when the avenue to implementation is blocked.

An awareness of the exhibit audience existed, but caution should be taken when interpreting this as a sign of visitor centered practices by the exhibit planners. How the perception of visitor needs and interests was formed is also significant. Certainly, some of the participants employed objective, systematic methods of gathering this type of information from visitors. However, others relied on more subjective means. In forming their perception of visitors, the planners were influenced by input from friends, family, specialists and other staff members. For some of the planners, a reliance on their own "gut instinct" and knowledge of visitors was considered favorable to more formal feedback methods. Just as Rubenstein (1990), Screven (1993b), Reich (1988), and McManus and Miles (1993) have noted, exhibit planners continue to use subjective methods to

form their concept of the visitor, despite the existence of direct, objective methods for collecting visitor input.

Although many of the participants expressed a desire that their exhibits be appealing, engaging and inspiring for visitors, these were certainly not their only concerns. Just as the visitor was one of many factors considered by participants, visitor-related criteria was not the only type used to assess an exhibit's success. Peer approval, meeting budget constraints, attendance figures, attracting press interest and self approval were also identified as the planners' goals. This was consistent with information found in the literature. Linn (1983) identified the gaining of peer approval as a need among exhibit planners. And as Hicks (1986) and Munley (1986) have observed, it is more common for museums to engage in self-review or self-analysis than forms of evaluation that include visitor input. If an exhibit pleases the museum staff, achieves an adequate attendance level and gains peer approval, it is often considered a success and formal evaluation is regarded as unnecessary (Knott & Noble, 1989; Shettel, 1988). Therefore, while the visitor may be the primary target for exhibits, in reality exhibits function to fulfill goals not related to visitor enjoyment and education.

Therefore, visitors were found to play a peripheral role at some of the institutions studied. Feedback was collected at late stages of exhibit development, thus diminishing its impact on decision making. Although the exhibit planners

expressed a consciousness of their target audiences, exhibit development was sometimes influenced by the input of non-visitors such as friends, families and colleagues. In addition, the criteria used to judge an exhibit's success indicated that some of the participants had goals in mind that were not directly related to the visitor. The conventional exhibit planning practices that had been identified in the literature were found to persist among the planners studied. However, evidence of the more recently proposed approaches to exhibit planning was also found among the responses.

Post-modernism and Communication. The emergence of the post-modernist ideology has been paralleled by changes in mass communication theory. Post-modernism in the museum world is characterized by the recognition of cultural diversity and the need for previously unheard members of the public to express themselves (Hooper-Greenhill, 1992). Similarly, the mass communication audience that was once perceived as passive and undifferentiated is now viewed as active and fragmented (Hooper-Greenhill, 1994b).

The integration of post-modern approaches to communication between exhibit planners and visitors was a notable finding. Not only were visitors provided with a means for voicing their opinions about exhibits, but in some cases they were also given a way to directly contact the exhibit planners. "Talk back boards", letters to the director, curator-led tours and opportunities to converse

with the planners were all methods used at the institutions studied to bring the visitor in contact with exhibit planning staff. These methods were particularly significant in that the visitor could enter into a dialogue with exhibit planners. Unlike feedback mechanisms in which the visitor expresses their opinion but does not receive a direct response, a two-directional system of communication occurs between the visitor and planner.

Both Volkert (1991) and Weil (1990) have suggested that museums adopt a dialogue or two-way system of communication. Hooper-Greenhill (1992) even proposed that visitors should challenge and question the authority of curators and the information presented via museum exhibits; this proposal typifies post-modernism in that a societal institution is being held up to scrutiny by members of the public (Middleton & Walsh, 1995). The feedback mechanisms described by some of the participants clearly provided visitors with the means to express themselves and obtain answers from the planners themselves. It is evident from the responses of the planners in this study that at some museums such post-modern ideas are being implemented.

A related concept that Hooper-Greenhill (1992) identified was the breakdown of barriers between the public and private areas of the museum. Among the participants in this study, it was evident that efforts were being made to grant visitors greater accessibility to the people and processes that have conventionally been behind the scenes.

In many cases, the exhibit planners were not remaining isolated from visitors but rather were seeking out opportunities to interact.

The fragmentation or "de-massification" (Hooper-Greenhill, 1994b) of the mass communication audience was another concept that was apparent among the responses. Unlike early views of the audience as a large, undifferentiated group, the participants in this study were aware of the diversity of the exhibit audience. The exhibit planners recognized that the target audience may consist of a broad range of visitors with varying interests, levels of knowledge and development. The perception that some of the participants had of the exhibit audience was therefore consistent with recent developments in mass communication theory.

The responses received in this study provided evidence for the integration of post-modern concepts with exhibit planning practice. Since many of these ideas form the foundation of recently published exhibit planning models, it is therefore not surprising that the practices described by participants were reflective of these models. However, despite the numerous similarities identified through analysis, it was clear that none of the models were being put into practice exactly as found in the literature.

Exhibit Planning Models: Theory vs. Practice. The exhibit planning models identified in the literature varied in their depiction of the exhibit planning process.

Specifically, the models differed with respect to how explicitly two main areas of exhibit planning were defined: (1) the organizational structure of exhibit planning staff, and (2) the timing and method of obtaining feedback.

For instance, Bitgood's model of exhibit development clearly sets out the steps for producing an exhibit, including the type of feedback that should be obtained and at what points this should occur. However, the model does not delineate the specific roles and responsibilities of exhibit planning staff members. By contrast, the Smithsonian system focuses on the hierarchical structure of the exhibit planning team. The specific timing and method for obtaining visitor input is not clearly defined in this model. A third approach is the London system, in which the organizational structure of the team is described, and emphasis is placed on visitor feedback obtained in an early stage

Other exhibit planning models had been identified from the literature but were not found to be congruent with the responses provided by participants. Screven's (1976) goal-referenced model was among the first to incorporate feedback and was the foundation of the models that succeeded it. Screven advocated the use of pre- and post-tests to evaluate changes in visitor knowledge and behavior. None of the participants described using evaluation of this form, and the more recent exhibit models more suitable depiction of current exhibit planning practices than the goal-referenced approach.

Birch's theatrical model had numerous problems that

impeded its application to actual planning practices. The model does not clearly define how the specific steps used in producing a theatrical production relate to comparable steps in exhibit production. Furthermore, it neither outlined the responsibilities of the museum staff involved in exhibit planning nor indicated whether feedback was to be used at any point in the production process. Thus, the model proved to have little practical value when compared to the practices described by participants in this study.

The cyclic evaluation model proposed by Stanton (1995) is a four-stage exhibit development scheme. However, the first stage is the only one that directly deals with exhibit planning, and this stage is virtually identical to the Bitgood model that pre-dates Stanton's by five years. In analyzing the participants' responses, similarities to other aspects of Stanton's model were sought. Since none of the planners indicated that hypothesis testing or documenting and disseminating evaluation results were part of the exhibit planning system in use at their institutions, it was concluded that there was no evidence of the Stanton model being practiced among the participants.

With the exception of these three, the exhibit planning models identified from the literature were all found to correspond the practices of the participants, to some degree. However, it was apparent that no single model was being put into practice completely, nor could one model be used to represent the practices of all the planners.

Organizational Structure. With respect to the organizational structure of the individuals involved in exhibit planning, the participants' practices were reminiscent of both the London and Smithsonian models. At some of the institutions, a hierarchical approach was used, with a leader heading the project, followed by a project manager in charge of keeping the project on track, and then the specialists in various aspects of exhibit development, including design, education and content. This structure was quite similar to that presented in the Smithsonian model of exhibit planning. But at other institutions, a more egalitarian team approach prevailed. Although these institutions also had leaders, the other staff members involved in exhibit planning shared responsibility for various duties; divisions between areas of responsibility were not clear cut but rather overlapped. This type of organizational structure was more indicative of the London system of exhibit planning than the Smithsonian.

It is worth noting that the literature pertaining to exhibit planning theory has not examined how exhibit planners feel about being part of an exhibit team. The responses of participants in this study provided valuable insight on the advantages and disadvantages of using a team approach. Overall, most of the participants were positive in their assessment and liked the support, input and enhanced creativity that came from working with a team. However, the team approach did have problems associated with it. One

drawback was inefficiency, particularly if the team lacked a strong leader to keep the project focused and on schedule. Another problem stemmed from the dependence of team members on each other; if one individual does not fulfill their responsibilities, the whole team and project suffers the consequences.

Visitor Feedback. The exhibit planners' practices pertaining to visitor feedback also varied among the institutions studied. Some participants stated that their museum conducted evaluation at all stages of exhibit development, from formation of the initial topic to after-exhibit installation; this was consistent with the feedback mechanisms found in the Bitgood model. At other institutions, evaluation was used only in a formative manner to test exhibit design prototypes. This practice was reflective of the London system's emphasis on formative evaluation. The Smithsonian model does not specify a time or means for getting visitor input; rather, the educator or evaluator is seen as the representative of the exhibit audience. While some institutions used input from educators or learning advisors during planning, and were in this way similar to the Smithsonian system, the lack of detail in this model regarding feedback mechanisms prevented further comparisons with actual practices from being made.

For many of the institutions studied, feedback came at the end of the exhibit development process. In some cases, the visitor input obtained was used to make changes to

exhibits. But this was not always the case. Despite a general desire to make modifications to existing exhibits, in reality many of the planners were not able to due to constraints such as design limitations and insufficient time or funding, and this was clearly a source of frustration. Stanton (1995) had acknowledged this problem, but did not offer any solution. Interestingly, some of the participants suggested that the solution was to incorporate modifications into the design, budget and schedule of the exhibit development plan. However, the participants also recognized that implementation of such a plan may not be feasible. Given the responses in this study, the most feasible timing for collecting visitor feedback may be at the formative stage, as in the London system. Resources are more abundant at this point in exhibit development, and the feedback has a greater potential for impacting exhibit planning decisions.

Exhibit planning theory has placed a great deal of emphasis on the importance of conducting formal, systematic evaluations with museum visitors. Criticisms of more informal evaluation methods abound. Museology researchers have asserted that if objective measures are not used, the perception that exhibit planners have of visitors becomes clouded by their own assumptions and input of other specialists and colleagues (Knott & Noble, 1989; McManus & Miles, 1993; Screven, 1993b). The exhibit planning models found in the literature also advocate the use of formal evaluation methods. Even the Smithsonian model, which does

not explicitly define a feedback mechanism, does so implicitly by including an evaluator.

It was evident from participants' responses that although the practice of formal evaluation techniques was occurring, obstacles to implementing these methods still exist. The reasons for this resistance were in many ways similar to those identified in the literature. Lack of adequately trained staff, limited resources, and the poor quality of evaluations done in the past were all cited by participants as reasons for not conducting formal evaluations, and these findings are consistent with previously published information (Knott & Noble, 1989; McManus & Miles, 1993; Reich, 1988). But a particularly interesting finding in this study was that, in the experience of some participants, formal evaluations do not provide them with any useful information that they had not already been able to obtain through their own informal methods. Moreover, the participants seemed to favor informal observation and interactions with visitors because it is convenient and immediate. Given the attitude toward formal exhibit evaluation expressed, it is evident that the practice of informal, subjective evaluation persists among participants in this study. Since previous studies have not compared exhibit planners informal evaluations to those obtained by formal methods, further exploration in this area is required.

Assessment of Exhibit Planning Models. In practice, none of the exhibit planning models from the literature

captured the total picture of exhibit planning practice. This was not only because planning practices varied across institutions, but also because none of the models represent all of the aspects that compose exhibit planning. Yet it was clear that exhibit planners have put into practice many of the principles inherent in the exhibit planning theories and accompanying models. The implementation of ideas from exhibit planning theory appears to be tempered by a need for practicality. If the theory is not perceived to yield practical results, it is not used; formal exhibit evaluation is one example of this. Therefore, how exhibit planners apply the ideas and concepts found in the literature is dependent on their own needs and the resources of the institution.

Published research focusing on exhibit planning and the role of the visitor has tended to be long on rhetoric but short on evidence. This study has served as an exploration to determine whether the ideas espoused in the literature have been integrated with current exhibit planning practices. While it is evident that the visitor does play a key role, there are also numerous other factors that influence the decisions made by exhibit planners.

The exhibit is a vehicle for communication between the museum and the public. Researchers such as Hooper-Greenhill, Miles, Weil and Volkert have been at the forefront in proposing ideas to improve the effectiveness of this communicative act through exhibit planning. Given that this

study has found evidence that the ideas identified in the literature can be found amid the practices of exhibit planners, further research is needed to determine how prevalent these practices have become and whether the resulting exhibits do result in more effective communication with visitors. Once more answers to questions such as these are found, progress can be made toward finding a theoretical framework for developing exhibits that meet both the needs of the museum and of the visitor.

Summary of Electronic-Mail Interview Methodology

The secondary purpose of the study was to assess the effectiveness of using electronic-mail to conduct social science research. Responses were gathered over a six-week period using a three-stage electronic-mail interview technique. Adapted from both interview and focus group methods, which are well-established ways of conducting qualitative research, the methodology used in this study explored the possibility of using an emerging form of electronic communication technology to conduct social science research.

Previous research had identified various advantages and disadvantages of using computers and networks to conduct survey research, which were outlined in Chapter 4. On the basis of the findings obtained, the advantages and limitations of the methodology used in this study were assessed.

Advantages of Using Electronic Mail Interviews

The literature pertaining to computer network surveys outlined several advantages. Convenience, speed, minimal cost and candid, high quality responses were identified as incentives for using computers for data collection (Mehta & Sivadas, 1995; Kiesler & Sproull, 1986). The results of this study supported these findings.

Electronic mail provided a quick and efficient means for communicating with respondents. Responses to the interview questions were at times received within hours of the initial mailing. Of the respondents that did complete the interview questions, most did so within three to four days of receiving the questions. This was comparable to the results obtained by Mehta and Sivadas (1995), who found that half of responses were received within two to three days of sending a survey via a computer network.

The fast turnaround time of electronic mail made it possible to efficiently address the questions and concerns of participants, without significantly impacting the length of time to complete the three-stage interview process. Similarly, the researcher was able to ask respondents to clarify their responses to particular interview questions in a quick and easy manner. In cases where a message containing the interview questions was lost, e-mail proved to be a fast way of delivering a new set of questions to the participant, thus minimizing the effects of such a setback.

The efficiency of using electronic mail to send

interview questions was enhanced by the discovery that one message could be sent to multiple participants simultaneously, yet anonymously. This greatly reduced the time spent by the researcher to address and send the messages. When compared to the traditional mail system, e-mail was both time and cost efficient.

The global nature of the Internet was conducive to recruiting participants that were distributed worldwide. After the initial recruitment message was posted to the seven electronic mailing lists and newsgroups targeted in this study, responses were received from several English-speaking countries, including Canada, the United States, the United Kingdom and Australia. Although not all of the individuals who expressed interest in the study went on to participate or complete the study, it was apparent that the potential existed to recruit participants internationally.

Edmondson (1997) and Gjestland (1996) have commented on the convenience of electronic mail. This form of communication allows participants and researchers to respond to messages at times that are suitable to their individual schedules. This was particularly advantageous in this study, given the world-wide distribution of the participants. The differences between time zones would have been problematic had a more traditional method, such as telephone interviewing, been employed.

The convenience of electronic mail was evident in other ways. Because incoming messages from respondents could be

directly printed onto paper, the time traditionally required to transcribe interview responses was greatly reduced. Additionally, the mail system automatically labels the date and time a message is received and was therefore helpful for recording and tracking the respondents' participation in the study. And, in the event that a message could not be delivered to a respondent, either due to an incorrectly addressed message or problems at the participants' mail server, the researcher was automatically notified within hours with a returned mail message.

Studies have shown that the respondents give longer and more candid responses in electronic surveys than in paper and pencil surveys or face to face interviews (Mehta & Sivadas, 1985; Kiesler, Siegal, & McGuire, 1984). Although it is not possible to compare the responses in the present study to responses that may be obtained through other techniques, it was apparent that the participants displayed a great deal of candor in their responses. The participants openly discussed the problems and frustrations they have experienced in the workplace. Many of the respondents provided lengthy, detailed and thoughtful answers. It was apparent that the majority of participants were eager to answer the interview questions and were appreciative of the opportunity to voice their opinions about exhibit planning issues. The nature of the responses received suggested that the respondents were comfortable expressing themselves using the medium of electronic mail.

Clearly, the results of this study indicated that there are many positive aspects of using electronic mail in conducting research. But to make a fair assessment, the advantages must be weighed against the limitations.

Disadvantages of Using Electronic Mail Interviews

Prior to undertaking the present study, the potential disadvantages concerning the use of electronic mail interviews were identified. Specifically, there were two main problems: (1) not being able to verify the identity of the participants, and (2) the demographic characteristics of computer network users.

Misrepresentation of identity is an inherent risk that researchers take when conducting research via computer networks. Within the limits of current technology, there is no absolute way of knowing that a participant is who they claim to be. However, analysis of the responses in this study indicated that the participants possessed an intimate knowledge of the exhibit planning process. It therefore seems unlikely that the participants were not involved directly in exhibit planning. Furthermore, many of the respondents possessed e-mail addresses originated from museums. This was an indicator that the individual was associated in some capacity with an established institution.

The second concern identified prior to undertaking the study was the demographic profile of computer network users. Information found in the literature described the typical

computer network user as a well-educated, white-collar professional who is technically sophisticated (Lefton, 1993; Kiesler & Sproull, 1986). While this was comparable to the description of a typical museum curator (Williams & Rubenstein, 1993), there was concern that this profile does not reflect the general population of exhibit planners.

The participants' characteristics were consistent with the anticipated profile of computer network users. It is unknown whether this profile is reflective of all museum exhibit planners. However, the purpose of this study was exploratory, and there was no expectation that the results could be generalized to a broader population. Future studies that incorporate random sampling and a population of exhibit planners who are not necessarily computer-network users would be required if more generalizable results are desired.

As a result of conducting this study, some additional disadvantages of using electronic mail interviews have been identified. Problems within the electronic mail delivery system can prevent the responses of participants from arriving in the researcher's mailbox. To counteract such occurrences, prompt follow-up with participants when responses have not been received was found to be invaluable; this gives the participant the opportunity to resend their responses. Mail messages are in the form of electronic files, and as such are subject to loss when a computer system fails. At least one participant reported losing their responses prior to mailing the message to the researcher.

This has the potential for inconveniencing and frustrating the participant.

The final drawback of the methodology used in this study pertains to the three-stage design. As anticipated, this design was found to create an opportunity for dialogue between the researcher and participant. However, there is a risk at every stage that the participant would drop out and not complete the subsequent stage(s) of the interview. This did result in having an incomplete set of responses. Since the study was exploratory, it was still possible to gain information from the incomplete interview sets in spite of participant attrition.

The utility of the electronic-mail interview is dependent on the goals of the research study in question. For the present study, it provided a fast, efficient and convenient means of communicating with participants distributed over a broad geographic area. Although only exhibit planners with access to the Internet were accessed, this was not perceived as a drawback given the exploratory purpose of the study. Using computers and computer networks comes with certain risks. These risks may differ from those associated with other methodologies, but they should not be perceived as more significant obstacles on the basis of this alone.

The electronic-mail interview technique proved to be an effective means of gathering the information required to meet the objectives of the study. From the responses received, it

was apparent that evidence to support the visitor-inclusionary theories identified in the literature could be found among the practices of exhibit planners. Strict adherence to exhibit planning models was not observed, but it appeared as though planners follow the general principles that are inherent in the various models. Exhibit planners balance the interests of the visitors against the limitations placed on the museum and exhibit planning team. Clearly, the visitor is one of the influential factors that is considered during the exhibit planning process.

Recommendations for Future Research

This study was exploratory in both its content and methodology, and for this reason there are numerous directions available for future research. On the basis of the results obtained, recommendations are proposed for further investigation in the area of exhibit planning, as well as the possibilities for employing different methodological approaches.

Recommendations for Future Research on Exhibit Planning

1. Participants in this study expressed a preference for using informal, subjective methods of exhibit evaluation over the formal, objective methods espoused in museology literature. Some exhibit planners claimed that formal evaluations did not provide them with any information that had not already been obtained through informal means.

Further research is needed to determine how disparate the results of each type of evaluation actually are.

2. One of the purposes of this study was to identify the factors that exhibit planners consider when planning exhibits. Information concerning the relative importance of these factors to the exhibit planners still needs to be collected in the future.

3. This study has focused on the processes used to plan exhibits. Specifically, it investigated whether the visitor inclusionary theories about exhibit planning were being put into practice. The proponents of visitor inclusionary exhibit planning approaches suggest that such methods result in more effective communication with the museum visitor (Hooper-Greenhill, 1992; Volkert, 1991; Walsh, 1992). Subsequent studies could examine whether museum exhibits planned using visitor inclusionary methods are more effective than exhibits planned in the traditional manner.

4. At the present time, it is unknown whether exhibit planning practices vary across different categories of museums. Therefore, a comparative study is needed to determine whether differences exist, and if so what the nature of the differences are. Examination of the exhibit planning practice among museums dedicated to particular subject matter, such as science and technology, natural history, human history and clothing and textiles could be

assessed in future studies.

5. It is unknown whether exhibit planning practices differ across geographic regions. Future studies could contrast exhibit planning practices of different countries.

Methodological Recommendations

1. The exploratory nature of this study prevents the generalization of the results. Therefore, subsequent studies could use a randomly generated sample of participants to determine the prevalence of the various exhibit planning practices identified in the present study.

2. Further exploratory research regarding exhibit planning practices could be undertaken using more conventional approaches such as interviews or focus groups. Future studies could compare the results obtained from conventional qualitative research with those obtained through the electronic mail interviews to determine whether a similarity exists and to assess the utility of using electron mail for conducting academic research.

3. Subsequent studies could employ a one-stage design rather than the three-stage system used in this study. This would lower the risk of participant attrition.

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APPENDIX A

Museum Related Electronic Forum

Mailing Lists

ACUMGN-L: Association of College & University Museums & Galleries of New England List.

CHILDMUS: Forum for children's museum professionals.

h-costume: Historic costume discussion list.

ICOM-CC: Museum conservation discussion list

ISEN-ASTC-L: Informal Science Educator Network mailing list.

mail-1: Forum for Alberta's museum community

museum-ed: Forum for museum educators.

MUSEUM-L: Museum discussion list.

Museum Professional SIG: Discussion group operated by National Capital Freenet, Ottawa.

MUSWEB-L: Museum web development discussion list.

TEXTILES: Textiles and clothing studies discussion list.

WEBHEAD-L: Science exhibits discussion list.

Newsgroups

bit.listserv.museum-l: Newsgroup that echoes the MUSEUM-L discussion list.

iiynet.arts: Covers subjects related to museums and the arts.

tnn.arts: Covers subjects related to museums and the arts.

zipnews.gov.pub-ser.museums.zoos.gardens: Covers subjects related to museums, zoos and gardens.

APPENDIX B

Recruitment Message

Are you working as an exhibit planner in a museum? Are you involved in developing the ideas, design concepts, themes, interpretation or educational material for museum exhibits?

I am looking for participants to take part in a research project that will be conducted during a three week period in March, 1998. Interviews will take the form of three brief electronic mail messages that will request information about your exhibit planning experiences. This project is being conducted through the University of Manitoba (Canada) as part of a Master of Science program. All information collected will be held in the strictest confidence and the researchers will take measures to protect the identity of respondents.

If you are interested in participating, please send a reply by e-mail to the following address and further information will be sent directly to your e-mail account:

xxxxxxxxxx@cc.umanitoba.ca

APPENDIX C

Stage One Electronic Mail Message

Thank you for your interest in my research project. As mentioned in the previous message, I am interested in finding out about your experiences and opinions regarding exhibit planning. The information I gather in this study will be reported as part of my Master's thesis. By participating, you will be contributing to the body of knowledge in the field of exhibit planning and museum studies. A summary of findings for this study will be available to you upon request.

During the following three week period, you will be asked a series of questions about your exhibit planning experiences, as well as some general demographic questions about you and your museum. The interview consists of three electronic mail messages, of which this is the first. You may expect the next message to follow in approximately one week, and the final message in about two weeks. You do not have to answer any questions you are not comfortable with and you may end the interview at any time.

Only my advisor and myself will have access to the information that you give me. Your name will be replaced with a code on printed records of your responses, and all electronic files will be deleted. Your name and e-mail address will be kept confidential. All responses will be kept in locked cabinets and destroyed upon completion of this

study. No reports of this study will identify you as an individual.

I hope that you will agree to participate in my research.

Consent Form:

By replying to this message via electronic mail account, you are indicating that you understand the following and have agreed to participate.

1. You have been asked to participate in a research study.
2. You have read the information about this research study that was included at the beginning of this message.
3. There are no apparent risks associated with taking part in this research study.
4. You may request from the researcher a summary report of the findings of this study.
5. At any time, you may ask questions or discuss the study with the researcher by sending an electronic mail message.
6. You are free to withdraw from the study at any time without having to give a reason and without any detriment to your ongoing association with the University of Manitoba.
7. You may refuse to answer any questions or provide information or samples during your participation in the study.
8. The issue of confidentiality has been explained to you, including who will have access to the information you provide and that no reports will identify you as an individual.

I UNDERSTAND THE ABOVE CONDITIONS AND AGREE TO PARTICIPATE IN THIS STUDY (Yes/No) _____?

IF YOU WOULD LIKE TO PARTICIPATE, PLEASE ANSWER THE FOLLOWING QUESTIONS:

1. What are the job titles of the people involved in exhibit planning at your institution and what are they responsible for?

2. What are the basic steps followed to develop an exhibit at your institution?

3. What factors do you consider important when planning an exhibit?

4. How do you know when an exhibit is successful?

Thank you,

Linda Diffey
Graduate Student

Dr. Susan Turnbull Caton
Faculty Advisor

APPENDIX D

Reminder Message

Dear [participant],

I want to take this opportunity to thank you for being part of my research study. Since my records show that I have not received your response to the first questions I e-mailed, I just want to confirm that you received my questions (mailed March 8). If you did not receive this message (containing a consent form and four questions), please let me know so that I can send you another copy. If you have not had a chance to complete them as yet, please respond at your convenience.

The participants in my study represent a vast cross-section of museum professionals. The input that every participant brings to the study is helping me to develop a picture of current exhibit planning practices. Your response to my questions is of great value to me and I look forward to hearing from you.

Sincerely,

Linda Diffey

APPENDIX E

Stage Two Electronic-Mail Message

Thank you for your response to the first part of my study questions. This e-mail contains the next set of questions; the final set of questions will be e-mailed to you in about one week.

Please answer these questions at your convenience, and thank you once again for your continued participation in this research project.

Sincerely,

Linda Diffey
Graduate Student

1. Other than your colleagues, who else do you consult when planning exhibits?
2. Do you ever make changes to exhibits after they are opened to the public?
3. How do/might you feel about being part of an exhibit planning team?
4. Does your museum seek feedback from visitors? How is this done?

5. Are formal exhibit evaluations ever used at your institution, and if so, do you consider them helpful in your work?

APPENDIX F

Stage Three Electronic Mail Message

Thank you for your ongoing participation in my study. Your responses have provided me with valuable information about current exhibit planning practices in museums.

This is the final set of questions I will be sending to you. Please respond at your convenience. If you would like to receive a summary of the results from this study, you may indicate this at the end of this message in the space provided. The summary will be sent to you via e-mail when it is completed.

Once again, thank you for participating in this study.

Sincerely,

Linda Diffey
Graduate Student

1. Indicate your age (in years):

<18____ 19-24____ 25-29____ 30-35____
36-45____ 46-55____ 56-65____ >65____

2. Indicate the highest level of education you have attained:

Secondary_____

Post-secondary:

Diploma_____

Undergraduate degree_____

Masters _____

PhD _____

Other (please specify): _____

3. What is your position at the museum/company at which you are employed?

4. Is your position full-time (30 hours or more per week) or part-time (less than 30 hours per week)?

5. What is the location of your museum (state or province)?
If outside of the U.S or Canada, which country?

6. How many full-time staff members are employed by your museum? How many are employed part-time? How many are volunteers?

7. What type of museum are you presently employed at:

Art gallery _____

Community museum _____

Human history _____

Multidisciplinary _____

Natural science _____

Science and technology _____

Clothing/textiles _____

Historic site _____

Other (please specify): _____

8. What is the annual operating revenue of your museum?

Check one: American dollars _____ Canadian dollars _____

Under \$40,000 _____ \$40,000 - 99,999 _____

\$100,000 - 499,999 \$500,000 - 999,999 _____

Over \$1,000,000 _____

Do not know _____

9. To the best of your knowledge, rank the following sources of operating revenue for your museum (1 = most important, 7 = least important):

Government _____

Universities/colleges _____

Admission fees _____

Bookshop/giftshop sales _____

Individual donations _____

Corporate donations _____

Membership fees _____

Other (please specify): _____

Do not know _____

10. How did you hear about this research study?

Museum-L mailing list _____

Museum-L newsgroup _____

h-costume _____

webhead-l _____

museum-ed _____

textiles-l _____

childmus-1_____

Other (please specify)_____

11. Would you like to receive a summary of the results for this study (yes or no)?:

THANK YOU FOR YOUR PARTICIPATION.

APPENDIX G
Number of Participants

<u>Stage of Interview</u>	<u>Responses Received</u>
Stage 1	21
Stage 2	18
Stage 3	15
	<hr/>
Total responses	54

APPENDIX H

Templates

TEMPLATE 1

Question: Other than your colleagues, who do you consult when planning exhibits?

Relevant objective: To determine (a) whether visitor centered planning approaches are practiced by exhibit planners, (b) what role visitors play in the exhibit planning process, and (c) whether information about visitors is used during exhibit planning and if so, how is it obtained.

I. Experts/Specialists

-from fields related to museums or the subject matter of the exhibit

-"intelligent non-specialists" - professionals in non-museum related fields

II. Community members

-visitors

-potential visitors

-family

-interested individuals/groups from community (eg. teachers, legion)

III. Non-planning museum staff

IV. Board members

V. Does not consult other people

A. Observation (not direct consultation with people)
- includes other museums, entertainment venues, websites, books

B. Has encountered barriers to consulting with external specialists

TEMPLATE 2

Question: Do you make changes to exhibits after they are opened to the public?

Relevant objective: To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

I. Changes are made to exhibits

A. Reasons for changes

1. Conservation reasons
2. Errors in label copy
3. Finishing touches added to exhibit
4. Maintenance reasons
5. In response to visitor input
6. To improve communication of the intended message

II. Changes are not made

A. Barriers to making changes

1. Design of the exhibit
2. Insufficient time
3. Insufficient funds

B. Suggested ways of overcoming the barriers

1. Include modifications in the exhibit plan
2. Include modifications in the budget

TEMPLATE 3

Question: How do/might you feel about being part of an exhibit planning team?

Relevant objectives:

To ascertain the identity of decision makers in the exhibit planning process.

To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

I. Positive attitude expressed

1. Use of positive descriptors
(eg. wonderful, rewarding, invigorating)
2. Liked contributions made by team members
3. Enhancement of creativity
4. Liked support of team members

II. Problems/criticisms with team approach

1. Problems stemming from dependence on other team members
(ie. when someone doesn't pull their own weight)
2. Inefficient use of time
3. Used negative descriptors (eg. taxing, thankless job)

III. Expressed that teams require a leader

TEMPLATE 4

Question: Does your museum seek feedback from visitors. How is this done?

Relevant objectives:

To identify and describe the factors considered by exhibit planners when developing exhibits.

To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

I. Does not seek feedback

II. Does seek feedback

A. Uses formal methods

1. Focus groups
2. Evaluations
3. Visitor surveys

B. Uses informal methods

1. Comment book/suggestion box type system
2. Observation of visitors in the exhibit
- visitor behavior, visitor comments
3. Planning staff converses with visitors
4. Reports from museum's support staff who work daily with the visitors
(eg. floor or exhibit staff, security)

C. Miscellaneous other methods

1. Solicit comments through newsletter
2. Discussions with museum professionals from other institutions
3. Complaints, compliments, and injuries
4. Word of mouth comments

TEMPLATE 5

Question: Are formal exhibit evaluations ever used at your institution and if so, do you consider them helpful in your work?

Relevant objectives:

To identify and describe the factors considered by exhibit planners when developing exhibits.

To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

I. Formal evaluations are conducted at their institution

A. Criticisms

1. Evaluations don't provide any new information
 - don't perceive a need to do evaluation
2. Methodological problems
 - didn't measure intended goals
 - inadequate sample
3. Doesn't provide information that is useful during planning
4. Financial constraints prevent you from applying the results of evaluation
5. Should not be used to "dumb down" the exhibit content
6. Lack of people trained to do evaluations

B. Positive attitudes toward evaluation

1. Generally find evaluation helpful
2. Helpful during early stages of planning (ie. prototyping or front-end)
3. Useful for obtaining funds

TEMPLATE 6

Question: What are the job titles of the people involved in exhibit planning at your institution and what are they responsible for?

Relevant objective: To ascertain the identity of decision makers in the exhibit planning process.

(Note: Responses were categorized according to areas of responsibility within planning process)

I. Leading the team or project

- person(s) who oversees exhibit development, holds ultimate authority and responsibility

job titles: Director
Project leader or manager
Curator / Assistant Curator
Project Brief Writer
Board members

II. Concept/theme development

-includes setting the direction that the exhibit will follow thematically, choosing which ideas to proceed with (focus on decision making)

job titles: Curator
Exhibition director
Board of Trustees
Executive Director

III. Deciding the exhibit content

-deciding what objects and information will be included in the exhibit

job titles: Curator
Education directors
Content/subject matter experts
-directors/heads of specific departments (eg. science, history)

-other people who provide input for content decisions:

community members/potential visitors
-focus groups, reference groups, advisory groups

experts external to the museum

IV. Research and label copy
 -includes any research for exhibit content and decisions about the information used for label copy

job titles: Curator
 Exhibit developer
 Committee
 Exhibit Assistant
 Creative exhibit designer
 Associate Curator

V. Design of the exhibit
 -includes individuals who are involved in discussing, developing and deciding design concepts for the exhibit
 -does not include fabrication and production of the designs and exhibit components

job titles: Curator/Asst. Curator
 Director of exhibits
 Exhibit designer
 Design manager
 Exhibit Assistant
 External designer (ie. contracted from outside the museum)

-other people who may contribute to design development:

staff from other departments - education
 science
 history

-those responsible for prototyping:

Exhibits assistant
 Director of Operations
 Artist
 Exhibit Specialists
 A/V specialists

VI. Technical/production decisions
 -includes making decisions about the technical elements of design components, the materials and processes that will be used in production, developing specifications for production, and supervising the production and installation of the exhibit

job titles: Director of Exhibits
 Coordinator of exhibits
 Exhibition manager

Head of multimedia
Director of operations

VII. Educational programming and communication

-includes providing input in the following areas:

- communication strategies
- learning requirements of visitors
- staff training requirements
- educational content of exhibits
- age appropriateness
- planning educational programs
- developing educational materials (guides, curriculum)

job titles: Educator
Director of Educational Development
Head of Education
Director of Education
Education specialist
School Programs Coordinator
Family Programs Coordinator
Education Curator
Curator (works with Education Curator)
Learning Advisor
Education Advisor

VIII. Financial decisions

- two categories: (A) fundraising
-Director
- (B) budget management
-Curator
-Exhibit designer
-Associate Director

IX. Roles not categorized

- liason between staff members, board
- quality control (Executive Director)

X. Non-planning roles

-the respondents also identified various staff members who were in support roles and thus not directly involved in exhibit planning. Since this fell outside the objective of the study, these responses need not be included in the analysis.

The following areas of responsibility are considered non-planning

- administrative/office tasks (registrar, office manager)
- museum spokesperson
- constructing, producing, installing exhibit (non-decision-making roles)

TEMPLATE 7

Question: What factors do you consider important when planning an exhibit?

Relevant objective: To identify and describe the factors considered by exhibit planners when developing an exhibit.

I. Goals

- educational goals
- museum's goals/mission

II. Available Resources

A. Financial resources

- cost to produce
- funds available

B. Human resources

- staff and/or volunteers available for production, maintenance, and staffing the exhibit

C. Time

- time to produce the exhibit

III. Length of exhibit run

- long or short term exhibit

IV. Technical and design considerations

- plan of building
- traffic flow
- visibility
- safety
- technical requirements (lighting, electricity)
- length of time to explore exhibit

V. Subject matter of exhibit

- what the subject is
- are there enough objects to support an exhibit on a particular subject

VI. Communication

A. Communication of exhibit message to visitors

B. Communication among staff members

VII. Market competition

-competition from other education/entertainment venues

VIII. Self factor

- "gut instinct"

IX. Staff input

-feedback and direction from other staff members

X. Visitor suggestions/comments

TEMPLATE 8

Question: How do you know when an exhibit is successful?

Relevant objectives:

To identify and describe the factors considered by exhibit planners when developing exhibits.

To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

Criteria and methods used to judge exhibit success:

- I. Formal exhibit evaluations
- II. Peer approval
- III. Increased visitation
- IV. Visitor feedback
- V. Informal observation
 - A. Observing visitors to exhibit
 - B. Observing wear of exhibit components
 - C. Observations of support staff
- VII. Appeals to all age groups
- VIII. Self evaluation
 - when staff members like the exhibit
- IX. Cognitive/learning gains in visitors
- X. Publicity
 - press interest
- XI. Non-specific affective criteria
 - includes responses that indicate enjoyment, inspiration, motivation or other affective consequences in the visitor, but participant does not indicate how they would measure this
- XII. Positive team experience
- XIV. Costs are within budget

TEMPLATE 9

Question: What are the basic steps followed to develop an exhibit at your institution?

Relevant objective: To determine whether current exhibit planning practices follow the exhibit planning models found in the literature.

Analysis of responses: The major stages of exhibit development, based on the responses, are outlined. Please note that this was the overall pattern that was determined to have emerged.

I. Theme/idea development

- selecting a theme for the exhibit

A. originates from staff members

- input from multiple individuals
- brainstorming
- submit ideas

B. originates from one senior staff member

- a leader proposes or decides the direction

- sources of input/factors considered:

- goals & objectives
 - education
 - museum mission
 - communication

- visitor input

- direct - focus groups, comments, suggestions
- indirect - consider audience factors
 - target market
 - age, interests

- special events that coincide with exhibit

- budget

II. Plan development

- setting a schedule, budget, assigning roles and responsibilities of staff/exhibit team

- may include drafting a central planning document or brief

- outlines objectives, cost, budget, schedule, and other relevant planning info

III. Design development

- develop and propose design ideas for exhibit
- may include a prototyping/mock-up test
 - seek input from - visitors
 - volunteers

IV. Exhibit Production

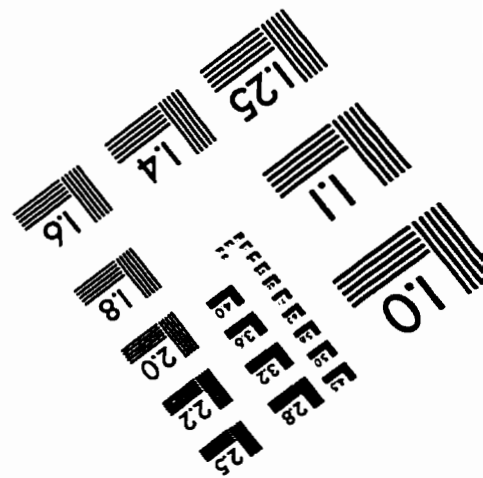
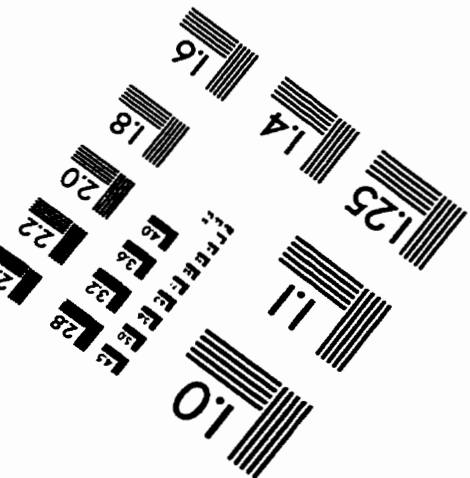
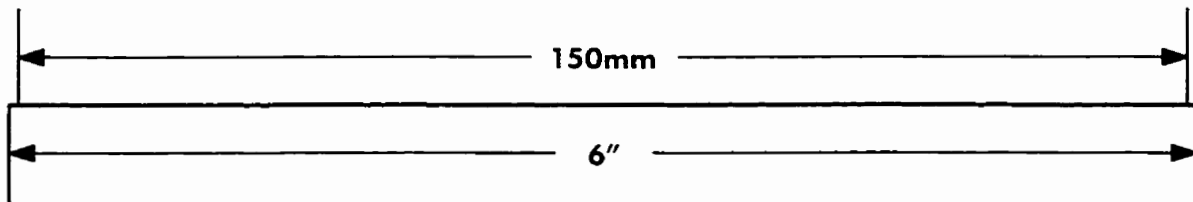
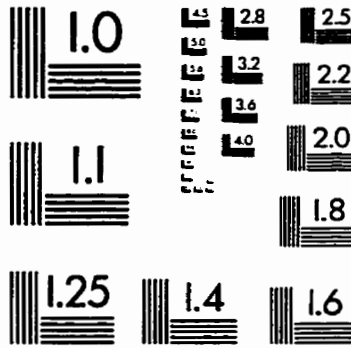
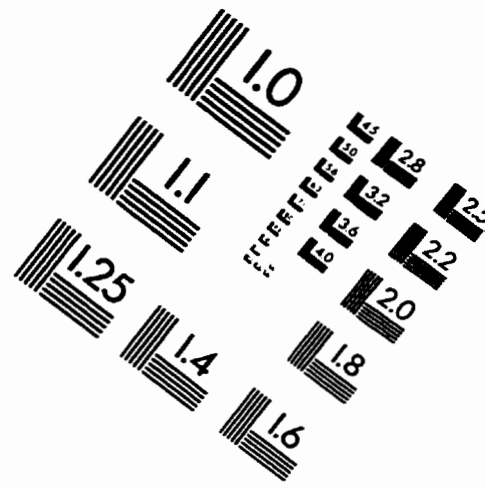
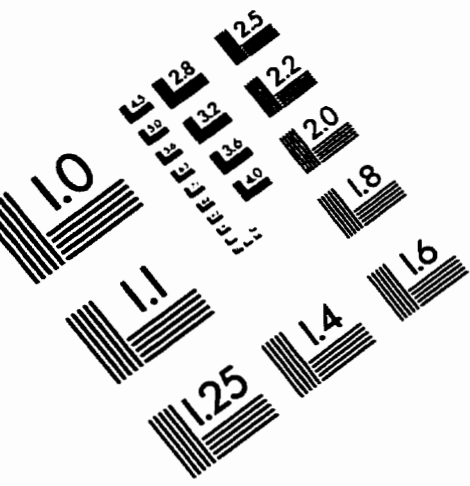
- produce components that will appear in final exhibit
- A. Select and gather objects
- B. Research and write label copy
- C. Produce physical components of exhibit
 - graphics
 - software
 - exhibit components

V. Exhibit opening

- A. Public opening as end-point of exhibit production
- B. Exhibit is modified after opening
 - observation with visitors are basis of modifications
- C. Evaluation is conducted after opening

Other response: The participant could not identify any basic steps to exhibit development.

IMAGE EVALUATION TEST TARGET (QA-3)



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