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MUSEUM CHARACTERISTICS ADVANTAGEOUS FOR EDUCATION OF THE DEAF

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Introduction

Museums, by their very nature, are places where a wide assortment of objects, images, concepts, and experiences are drawn from all over the world and from all periods of history, far beyond what can ever be provided in school classrooms. In recognition of this, museums are being utilized more and more in general education programs, but the literature suggests no such programs specifically directed toward the deaf. The conclusion was drawn by the researcher that a study (Platt Novik, 1981) was needed to provide a rationale in support of museum utilization for education of the deaf, lead to further exploration of the subject, and ultimately to the broad development of curricula. For purposes of this paper, the research questions explored were:

1. Do museums have specific characteristics that are potentially advantageous for education of the deaf?
2. To what extent are these characteristics evident in different types of museums?
3. To what extent are museums being utilized as an adjunct curriculum by schools for education of the deaf?

Museum Characteristics Advantageous For Education of the Deaf

The use of the arts as a teaching tool for the handicapped has been recognized as an effective way of teaching special skills and also reaching youngsters who may otherwise be unteachable. For example, the San Diego Zoo Project (*Zoo Project for Handicapped Children*, 1972) was designed to increase the language skills of 870 mentally handicapped children through the use of animals as motivating devices. The program included a teacher training program enabling teachers to make full use of the zoo experience, an in-zoo program which

utilized the zoo setting and animals, and an in-school program in which the project findings are data showing measurable improvement in language skills of participating students, improved social interaction, and increased self esteem and confidence of participants.

The Brooklyn Museum has long been a leader in developing exhibits that provide tactile experiences for the blind, and at a demonstration project at the New York Metropolitan Museum of Art (Silver, 1976) it was suggested that the deaf can use art for abstract thinking, recall, and integration of experiences. *Museum and Handicapped Students: Guidelines for Educators* (1977) and the work of Gerson (1977) have made attempts to establish guidelines for working with special handicapped audiences including the deaf.

Nevertheless, there has been, heretofore, little attempt to correlate the potential of museums with the research on problems of educating the deaf. Recent research dealing with the split brain concept (Kimura et al. 1975 and Labreche and Manning et al, 1977) indicates that such an approach is warranted. The split brain concept associates the left hemisphere of the brain with basic language and mathematics; the right hemisphere of the brain is associated with sensory experiences.

In terms of the split brain, it appears logical to assume that language deficiencies of the deaf result in restricted inputs to the left hemisphere of the brain which is responsible for the learning processes involved with most academic subjects. However, sensory inputs, which feed into the right hemisphere of the brain are absorbed just as well by the deaf child as by a child with normal hearing. The implication is apparent that learning for the deaf child might be enhanced by teaching

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through the use of non-verbal techniques such as exhibits. Additionally, recognizing that the left and right hemispheres of the brain transfer information back and forth through a two-way bridge called corpus collosum, the possibility seems to exist that emphasis of sensory experiences could result in knowledge incidental to acquisition of language but which might, nevertheless, accelerate language acquisition and therefore other learning localized in the left hemisphere.

The search through the literature on problems in education of the deaf, research on auditory deprivation, research on non-verbal learning, research on visual stimulation, and on the split brain provides a number of assertions that can be made in reference to education of the deaf. These assertions are:

1. Emphasis on language acquisition has not been very successful as the major thrust in education of the deaf.

2. The deaf suffer from a restricted data input in their learning environment due to absence of the auditory sense.

3. The deaf suffer from retardation of mental capacities because of restricted data input.

4. The deaf perform as well as do hearing subjects on a variety of intellectual tasks providing the language or symbols are within the capacity of the deaf.

5. The use of visual cues and symbols can enhance learning potential of the deaf and help them perform complex tasks. Additionally, deaf subjects have demonstrated superior color discrimination ability.

6. Emphasis on sensory inputs may enhance language acquisition and other learning.

The above assertions, drawn from research on education of the deaf, supply the substance from which criteria may be derived, both for education of the deaf, in general, and within the context of this study, for determination of museum characteristics advantageous for education of the deaf.

The criteria are now presented as follows:

1. Deemphasis of language skills.
2. Provision for a rich sensory environment.
3. Provision for individual learning rate.

4. Use of simple language and symbols.

5. Use of color and other visual cues.

Although the literature reflects a plethora of published and unpublished reports about museums and museum education programs (see Elliot and Loomis, 1975, for a comprehensive bibliography of some of them), there is little in the museum literature that offers a determination of what characteristics of museums are specifically advantageous for the education of the deaf. Fortunately, museum characteristics advantageous for *general* education were found to have been identified by Parr in one of the sessions of the Smithsonian Institute Conference on Museums and Education (Larabee, 1967).

Cursory examination of museum characteristics concerned with general education revealed no obvious discrepancies with characteristics that might also be of particular advantage for the deaf.

When evaluated within the context of the derived criteria for education of the deaf, the museum characteristics selected as advantageous for general education were found to be suitable for the deaf as well.

After consultation with professionals in the fields of deaf education and museum education, the museum characteristics advantageous for the deaf were paraphrased for convenience and applicability as follows:

1. Museums emphasize *direct involvement and personal discovery*; pace and order are not forced.
2. Museums offer opportunities for *three dimensional experiences*.
3. Museums involve *more than one sensory experience*.
4. Museums offer opportunities for observing events and ideas across cultures and/or historical periods, *simultaneously*.
5. Museums provide *reinforcement of knowledge and improved learning retention* by helping students gain an awareness of their environment and the sequence of events.

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6. Museums have objects and materials that are set aside for making *comparisons* and *contrasts*.
7. Museums are accessible to people of *all ages* and *abilities*. Information is available to individuals who have difficulty with symbolic language.
8. Museums have *collection* and *manpower resources* set aside for *scholarship*, *research*, and *teaching*.
9. Museums offer opportunities to observe *unique* and *authentic objects*.

Museum Survey

A survey of seven different museums in Washington, D. C. (National Gallery of Art, National Zoological Park, Capital Children's Museum, National Museum of Natural History, Hirshorn Museum and Sculpture Garden, Renwick Gallery, National Air and Space Museum) offered evidence suggesting that they devote a large proportion of their resources to education and substantiated the presence of the special characteristics potentially advantageous for the deaf. A subjective evaluation of the degree to which these characteristics are present in each museum is indicated in the chart on the next page. The evaluation was based on the results of the museum survey interview guide (Appendix A) and personal observation. Although it is recognized that the types of museums that were surveyed are not necessarily stereotypes and that, in fact, many other types of combinations of museums exist, several generalizations may nevertheless be deduced from the qualitative data obtained. There is a spectrum of museums ranging from those that devote a major portion of their resources and exhibits to educational purposes, to those that devote little of their resources and exhibits to education but are concerned with the display (and protection) of priceless art treasures. The National Zoological Park, the Children's Capital Museum, and the National Air and Space Museum appear to fall into the first part of the spectrum and it is concluded from this, and from the inherent nature of these museums, that zoos (and aquariums, wildlife preserves, etc.), children's museums, and technology museums will be most abundant in the presence of characteristics advantageous for the deaf and therefore

most easily exploitable in support of curricula for teaching the deaf.

At the other end of the spectrum is the National Gallery of Art which maintains one of the finest permanent art collections in the world. However, the ambience is hardly conducive to the education of deaf children, and it is concluded that most are museums which concentrate their resources on the collection and display of valuable art works must be somewhat limited with respect to the presence of characteristics advantageous for education of the deaf.

The National Museum of Natural History, the Hirshorn Museum and Sculpture Garden, and the Renwick Gallery are considered to be somewhere between the two extremes in the spectrum with respect to allocation of resources and presence of characteristics advantageous for education of the deaf. It is deduced that most museums within the extremes of the spectrum will embody most of the desirable characteristics. All of the administrators interviewed in the survey indicated willingness to cooperate in development of curricula for deaf students.

Survey of Schools for Education of the Deaf

With reference to the third research addressed by the author, it was found that utilization of museums in support of curricula of schools for education of the deaf was minimal. Data with reference to utilization of museums were gathered from a variety of schools including: day and residential programs for preschool to high school; schools for the multiply-handicapped; and part-time and full-time programs in public schools. Of the 100 institutions that were randomly selected for the survey, data from 43 institutions were received for tabulation and analysis (See Appendix B). It appears from the data that residential schools may have already begun to exploit museums in support of curricula. Most of the schools not now utilizing museums gave distance and accessibility as the reason. However, virtually all of the schools were located in cities with at least one museum listed in the *Official Museum Directory* (1980) and it is concluded that other factors such as motivation and lack of knowledge on how to use museums are equally important as distance, with respect to

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Presence of Museum Characteristics Advantageous for the Deaf

National Museum Characteristics	National Gallery of Art	Capital Zoological Park	Museum Children's Museum	National Museum & of Natural History	Hirshorn Sculpture Garden	Air and Renwick Gallery	National Space Museum
1. Direct Involvement & Personal Discovery	M	E	E	M	M	M	E
2. Three Dimensional Experiences	M	E	E	M	M	M	E
3. Multi-Sensory Experiences	P	E	E	M	M	M	E
4. Oppor. to Observe Events Simultaneously	P	M	M	E	M	M	E
5. Reinforcement of Knowledge Through Sequencing of Events	M	E	E	E	M	M	E
6. Opportunities to Compare and Contrast	M	E	E	M	E	E	E
7. All Ages & Abilities May Participate	P	E	E	E	E	E	E
8. Available Resources for Scholarship, Research & Teaching	E	E	M	E	E	E	E
9. Opportunity to Observe Unique and Authentic Objects	E	E	M	E	E	E	E

KEY: E—Extensive—large proportions of museum resources are devoted to the characteristics expressed at the Smithsonian Conference, *Museums and Education* (Larabee, 1967).

M—Moderate—some museum resources and programs are devoted to the characteristics expressed at the Smithsonian Conference, *Museums and Education* (Larabee, 1967).

P—Poor—limited presence of museum characteristics expressed at the Smithsonian Conference, *Museums and Education*, (Larabee, 1967).

museum utilization.

An order of preference for museums was derived which indicated preference for children's museums, zoos/aquariums, natural history museums, and botanical gardens. The preference for children's museums might be preferred because of their dedication to education and their embodiment of the characteristics cited as appropriate for the deaf. A relatively low degree of preference for art museums also corroborated the researcher's observations.

Generalizations

Analysis of the data obtained from the dissertation study led the investigator to offer the following:

1. A set of criteria for education of the deaf has been derived from a study of the literature.

2. Museums embody characteristics that have potential for education of the deaf.

3. The extent to which the characteristics are present in museums varies, depending on type of collection and the commitment of the museum to education goals.

4. Utilization of museums by schools for education for the deaf is minimal.

5. Children's museums and zoos/aquariums, both rich in characteristics advantageous for the deaf, are preferred by schools for education of the deaf,

Recommendations

The findings of this study support the as-

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sumption that utilization of museums in support of curricula for the deaf should be encouraged and indicated that further research in this area is warranted.

The following recommendations are made:

1. It is recommended that a research study hypothesizing that "Utilization of Museums as Adjuncts to the Facilities and Curricula of Schools for Education of the Deaf . . . is advantageous" be undertaken. It is believed that a test of this hypothesis should involve at least two classes, each at a different grade level, whose progress (test scores, teacher evaluations, student evaluations) should be compared with other classes (control groups) taking the same curricula, but without the utilization of museums in support of curricula.

2. It is recommended that a survey be made, limited to residential schools for the deaf, to

determine the extent of museum utilization in support of curricula. The random sample taken herein selected only 6 out of a total of 79 residential schools. The survey should solicit information with respect to number of visits per year in support of each specific curriculum, what museums are visited and preferred, distance to each museum, how the program was initiated and funded, evaluation of program, methods of evaluation, program difficulties, and future plans.

3. Coordinated studies are recommended between educators of the deaf and scientists now studying facets of the split brain concept.

This study was intended to serve as a starting point in an area that has seen little research and development. It presents the basis for a new approach where new approaches are needed and lacking.

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APPENDIX A

MUSEUM SURVEY — Interview Guide

PERSONAL DATA

— Primary professional position and responsibilities of person being interviewed.

— How many years have you personally been involved in the museum program?

What is the nature and extent of your transient collection?

Do you presently offer programs for deaf audiences?

Have any special materials been developed by your staff to be used by deaf students?

What is the extent and nature of the programs you offer?

To your knowledge, do other museums have programs for the deaf?

How do you encourage deaf audiences to utilize your programs?

Are you interested in expanding your program offerings for the deaf?

Do you have any suggestions for better utilization?

What are some ideas and programs that might be utilized with the deaf?

At the 1966 Smithsonian Conference on Museums, participants were asked to respond to the question:

“What are the special advantages of museums for education?”

The following ideas summarize the ideas expressed by some of the participants:

1—Museums emphasize *direct involvement* and *personal discovery* and pace and order are not forced;

2—Museums offer opportunities for *three dimensional experiences*;

3—Museums involve *more than one sensory experience*;

4—Museums offer opportunities for observing events and ideas across cultures and historical periods, *simultaneously*;

5—Museums provide *reinforcement of knowledge* and *improved learning retention* by helping students gain a new awareness of their environment and the *sequence* of events;

6—Museums have objects and materials that are set aside for making *comparisons* and *contrasts*;

7—Museums are available to people of *all ages* and *abilities*. Information is available to individuals who have difficulty with symbolic language.

8—Museums have *collection* and *manpower resources* set aside for *scholarship*, *research*, and *teaching*;

9—Museums offer opportunities to observe *unique and authentic objects*.

Can you give an example of a program, exhibit, display, etc. that illustrates any or all of the characteristics just listed?

Thank you for your cooperation.

APPENDIX B

Questionnaire

In the Smithsonian Institution report, *Museums and Education*, (Larrabee, 1967) it was stated that museums could contribute to formal education by virtue of specific and essential unique museum characteristics. It has been suggested that these characteristics might be even more significant with respect to the education of the deaf. This survey seeks to determine the extent to which schools for the deaf are utilizing these characteristics in their education programs.

You are requested to respond to the questionnaire included herein, by checking the appropriate spaces and adding any comments you may wish to make.

A. SMITHSONIAN REPORT

1. Has your school administration been aware of the Smithsonian Institution report of 1966 which identified and described museum characteristics that enhance the sensory experiences and learning opportunities for students?

Yes _____ No _____

2. If yes, have the recommendations of the report had an influence on your school program?

Yes _____ No _____

B. IN-HOUSE SCHOOL PROGRAM

The questions below are based on the characteristics of museums as summarized from the 1966 Smithsonian report. These characteristics were described as being essentially unique to museums; however, it is of primary interest in this survey to determine the extent to which schools for the deaf can provide or approximate these characteristics within their in-house programs.

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	Always	Frequently	Occasionally	Never
1. Provision for direct involvement and personal discovery; pace and order are not forced, (i.e., students have control over push button displays & programmed learning devices.)	_____	_____	_____	_____
2. Three dimensional experiences are offered. (i.e., observation of live specimens including insects, birds, animals, in their natural habitat, or examination of a represented village stocked with artifacts.)	_____	_____	_____	_____
3. More than one sensory experience is involved (i.e., examination of specimens or objects through the eye, hand, and ear.)	_____	_____	_____	_____
4. Opportunity to observe events and ideas across cultures and/or historical periods simultaneously. (i.e., captioned films, slides, tapes, exhibits and live demonstrations are organized around a central theme or focus, such as the art of one country through the centuries.)	_____	_____	_____	_____
5. Reinforcement of knowledge and improved learning retention by helping students gain a new awareness of their environment and the sequence of events, (i.e., an exhibit showing the formation of land masses as a supplement to geography curriculum.)	_____	_____	_____	_____
6. Objects and materials are set aside for making comparisons and contrasts. (i.e., learning laboratories and studios have materials available for comparing and contrasting shapes, colors, textures, and light, for example, assorted building materials.)	_____	_____	_____	_____
7. All ages and abilities may participate; information is more accessible to individuals who have difficulty with symbolic language. (i.e., displays, exhibits, pictures, reproductions, and models that represent specific and self-evident examples of items or topics.)	_____	_____	_____	_____
8. Collection and manpower resources are set aside for scholarship, research, and teaching (i.e., resources for collections and displays that are utilized for educational purposes.	_____	_____	_____	_____
9. Opportunities are provided to observe unique and authentic objects (i.e., moon rock exhibit, or display of rare gems, artifacts, and original works of art.)	_____	_____	_____	_____

C. MUSEUM UTILIZATION

1. Is there a specific curriculum that utilizes museums and museum resources in your school?

- a. Pre-school Yes _____ No _____
- b. Elementary School Yes _____ No _____
- c. Middle grades (6-8) Yes _____ No _____
- d. Upper or high school Yes _____ No _____

2. Is there a specific staff member designated as having the overall responsibility for museum utilization?
Yes _____ No _____

If yes, please state title and briefly describe the position.

3. Please indicate the type of museum visit by checking the frequency of visits made to a particular museum during the past 12 months.

Type of Museum

a. Art Museum	_____	_____	_____	_____	_____
b. Children's Museum	_____	_____	_____	_____	_____
c. Natural history museum	_____	_____	_____	_____	_____
d. Cultural and historic museum	_____	_____	_____	_____	_____
e. Science and technology museum	_____	_____	_____	_____	_____
f. Zoo and/or aquarium	_____	_____	_____	_____	_____
g. Museum of modern art	_____	_____	_____	_____	_____
h. Decorative arts museum	_____	_____	_____	_____	_____
i. Sculpture museum	_____	_____	_____	_____	_____
j. Botanical garden	_____	_____	_____	_____	_____

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4. How would you characterize the way museum resources are generally used by your classes— Check all that apply.

- a. Separate and supplementary to curriculum.
- b. Correlation with curriculum and provides additional work in current topic.
- c. Integrated with other teaching (inter-disciplinary).
- d. Never used.

5. If museums and museum programs are not used in your school, what factors, in your view, contribute to their lack of use? Check all that apply.

- a. Museums are too far away and inaccessible.
- b. Difficulty in making contact with museum staff.
- c. Lack of experience and knowledge of how to utilize museums.
- d. There has been a general de-emphasis in programs that do not stress the three R's.
- e. Other (specify) _____

6. What are some of your observations about your experience with programming with museums?

- a. Who should initiate program? _____
- b. Who should fund program? _____
- c. Other comments. _____

Thank you for your cooperation.

Your name _____

Your School _____

Day _____ Residential _____

Location of School _____

Your Title/Position _____