

EVALUATION OF THE TOURING METHODS IN
THE "HANDS ON JAPAN" EXHIBIT

By

Vito Joseph Sgromo

A Thesis Submitted to the Faculty of the

DEPARTMENT OF ART

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF ARTS
WITH A MAJOR IN ART EDUCATION

In the Graduate College

THE UNIVERSITY OF ARIZONA

1 9 8 1

STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED:

Vito Joseph Syronu

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

Roger L. Cardinale

R. L. CARDINALE

Associate Professor of Art

March 2, 1981

Date

ACKNOWLEDGMENTS

I would like to express my appreciation to Dr. Robert Cardinale for the support and encouragement he offered during the writing of this thesis. I would also like to express my gratitude to the members of my committee, Dr. Jean Rush and Mr. Edwin Ferdon.

In addition, I extend my thanks to Dr. Ivan Terzieff, Mr. Blue Bickford and Dr. Keith Meredith for their cooperation and accurate observations.

I also want to thank the children, parents and teachers at the exploratory learning center and the Arizona School for the Deaf and Blind.

Finally, I want to acknowledge the staff at the University of Arizona Museum of Art and in particular Mr. Joshua Goldberg, Curator of Education at the University of Arizona Museum of Art, whose support, guidance and enthusiasm were considerable contributions to the completion of this study.

TABLE OF CONTENTS

	Page
LIST OF TABLES	v
ABSTRACT	vi
 CHAPTER	
1. INTRODUCTION	1
Hands On Japan, A Sensory Experience for Blind and Sighted	2
Tours Used in Hands On: Japan	3
Hypotheses	3
Definitions	3
2. RELATED LITERATURE	5
Exhibits for the Visually Impaired	5
Educational Effects of Museum Exhibits	7
3. DESIGN OF STUDY	9
Subjects	9
Instrument	10
Procedure	11
4. RESULTS	14
5. DISCUSSION	17
 APPENDIX A: ATTITUDE TO BLINDNESS SCALE	 21
APPENDIX B: ANSWER SHEET	24
APPENDIX C: PERMISSION FORM	27
REFERENCES	30

LIST OF TABLES

Table		Page
1.	Analysis of variance	15
2.	Means and standard deviations for pretests and posttests by treatment groups	15
3.	Analysis of covariance	16

ABSTRACT

This thesis presents an evaluation of whether or not the multi-sensory art exhibit Hands On Japan, A Sensory Experience for Blind and Sighted improved viewers attitudes towards blindness. To present blind people as productive members of society, the exhibit displayed cultural contributions made by the blind in Japan by means of movies, theatrical, artistic, and musical performances and art objects. Visitors were observed to determine whether their attitudes improved as a result of the exhibit, and whether there were differences in attitude between blind and sighted visitors. Three groups of blind and sighted seventh- and eighth-grade students who toured the Hands On Japan exhibit completed an attitude-to-blindness scale immediately before and after visiting the museum. Analysis of variance and covariance were used on the data to detect any significant gains between pre- and posttest scores. All students showed a significant improvement in their attitudes towards blindness; those with the most positive change toured in a group composed of equal numbers of both blind and sighted children.

CHAPTER 1

INTRODUCTION

Only a few American art museums have explored the concept of handicapped involvement and accessibility to their exhibits. Larry Mollary (1978), Director of the National Arts and the Handicapped Information Service, found only 20 tactile galleries that included arts experience for blind people. Some of these galleries were open only to the blind, causing them to feel segregated and isolated. Such a small number of tactile galleries cannot satisfy the aesthetic needs of our 10 million adults and children who are visually impaired.

Two federal laws enacted during the last seven years have improved conditions for all handicapped individuals with regard to public schools and museums. The Rehabilitation Act of 1973 requires equal access for handicapped people to all federally-funded activities and buildings. Public Law 94-142, enacted in 1975, states that handicapped students must be educated with non-handicapped students. The handicapped, according to the federal government's definition, are the mentally retarded, physically disabled, emotionally disturbed, deaf, blind, and learning-disabled.

The challenge facing art museums is to explore existing educational methods to determine if they meet the demands of handicapped

students. Researching these methods will provide information that can be useful in planning future exhibits concerned with handicapped visitors.

Hands On Japan, A Sensory Experience
for Blind and Sighted

Hands On Japan was constructed at the University of Arizona Museum of Art, located in Tucson, Arizona. Dates for the exhibit were from October 20 to November 24, 1980. This multisensory exhibit used Japanese art and cultural objects to present blind people who have contributed to Japanese society. The catalog, theatrical and musical performances also highlighted several blind persons of historic and cultural importance to Japan. Joshua Goldberg, Curator of Education at the University of Arizona Museum of Art, wrote and received a grant from the National Endowment for the Humanities to execute this project. Hands On Japan was conceived by Goldberg as an arts and humanities approach to art education in museums. By immersion in Japanese culture, a common ground was established for shared experiences in Japanese art and customs by blind and sighted visitors.

The exhibit's educational format consisted of Japanese plays, artistic demonstrations, musical performances and movies on Japanese history and culture. The art pieces displayed were divided into touchable and non-touchable objects to protect some of the more fragile pieces. The non-touchable objects were exhibited in protective cases. Special sessions were given by teachers in special education to museum docents on appropriate methods for touring blind museum visitors.

Tours Used in Hands On Japan

Harold Snider (1978), Coordinator of Programs for the Handicapped at the Smithsonian Institution's National Air and Space Museum, used combined tours containing blind and sighted visitors. Snider's combined touring method was adopted for the Hands On Japan exhibit. One combined group of blind and sighted children and two uncombined groups were organized, consisting of blind or sighted students, to tour the exhibit.

Hypotheses

The children participating in this study will display a positive improvement in their attitudes towards blindness. Students involved in the uncombined tours will show similar positive improvements in their attitudes towards blindness.

The students included in the combined tour will exhibit a more positive improvement in their attitudes towards blindness than the children participating in the uncombined tours.

Definitions

The following is a list of definitions pertinent to the study.

1. Combined tour: equal number of sighted and blind students of the same grade level are incorporated in an exhibit tour.
2. Uncombined tour: the use of either sighted or visually impaired children in an exhibit tour.
3. Exploratory learning center: a school based on the philosophy that the student is the central agent in his learning. Children

are permitted to learn at their own speed in an environment that de-emphasizes competition.

CHAPTER 2

RELATED LITERATURE

Exhibits for the Visually Impaired

Exhibits for the blind appeared in museums across the country. Form in the Inner Eye (Nice, 1978); a sculpture exhibit for the blind and sighted, was sponsored by the Los Angeles County Department of Parks and Recreation from 1969 to 1972. The traveling exhibit visited four galleries in the Los Angeles area. Blind and sighted artists entered sculpture for the show. Blindfolded jurors evaluated the artwork according to its tactile qualities. After the exhibit opened, sighted visitors were requested to wear blindfolds. There were no tour guides. A guide rope was installed to lead visitors through the exhibit.

There were several major flaws in the design and presentation of this exhibit. The use of only the tactile sense in displaying artwork presents a narrow image of art: This approach stereotypes the blind as relying exclusively on their tactile sense.

The Mary Duke Biddle Gallery at the North Carolina Museum of Art opened in 1966 and is the first permanent tactile gallery in the United States. The criteria for displaying material was established by Maya R. Reid (1978), Gallery Curator, and states that texture takes the place of color. Trained docents give individual attention to blind and sighted

visitors. Blindfolded tours and written material on blindness were used to present the concept of blindness to sighted visitors.

This gallery emphasizes the tactile sense but has conducted multisensory educational experiences. Although the gallery trains its docents in handling blind visitors, an organized approach aimed at educating the sighted museum visitor about the concept of blindness is lacking. From the available information on this project, there is little or no effort to use combined tours of blind and sighted in the gallery.

The Wadsworth Atheneum's Lion Gallery of the Senses, located in Hartford, Connecticut, opened in 1972. The gallery's goal is "to provide nonvisual aesthetic experiences and to foster greater understanding of the artistic process" (Mulcahy, 1978, p. 14). The gallery is not limited to the blind, and it capitalizes on a general interest in the participatory arts through a multisensory experience. Material for display is taken from the permanent collection or is commissioned from local artists. According to Pat Mulcahy, Project Coordinator, blindfolds aren't used for two reasons. They induce sympathy for the blind, and children regard the use of blindfolds in the gallery as a recreational activity. Trained docents provide individual attention to the gallery visitor.

Mulcahy points to several problems in the Lion Gallery of the Senses. Only 400 to 500 visually impaired people visit the gallery each year. This small number has caused the financial supporters to question the existence of the gallery. Several visitors identified some early exhibits as children's fun rooms or called the gallery a museum for the

blind. Mulcahy (1978, p. 17) states, "This is not uncommon in museums that have initiated participatory programs."

Educational Effects of Museum Exhibits

Educational effects of exhibits can be measured. Elizabeth Nichol (1969) used a pre- and posttest method to study the educational effects of the exhibit, Teeth, on children who participated in the Boston Children's Museum. The Teeth exhibit consisted of learning stations that involved the children in participatory activities. The 69 children used in the study ranged in ages from 7 to 12 years. The test was administered immediately before and after the children participated in the exhibit. Pretests and posttests were similar and consisted of display boards where the children punched out the answers. The students were tested on their knowledge of the variety of teeth found in animals. Nichol found a significant improvement in test scores in 70 to 77 percent of the participants.

Butcher et al. (1968) employed observation, interest scales and attitude tests to evaluate the effectiveness of an exhibit on the role the federal government takes in science and technology. The study was done at the American Institute for Research in Pittsburgh, Pennsylvania. Butcher et al. used 290 paid and casual viewers and classified them as to sex, high-school graduates, college students, and adults. The factor of time was introduced. Two groups of visitors were used. One group was given unlimited time to observe the exhibit and another was limited in time. Shettel concluded that time had little influence on the subject's understanding of the exhibit. He also stated that interest and motivation

directed the participants in achieving the educational objectives of the exhibit. The objectives were to show the influence on the viewers' attitudes and knowledge of the advancements made in science and technology and how the federal government encouraged them.

In a study done in 1976, Shettel evaluated the educational effectiveness of the Man In His Environment exhibit in Chicago. The 149 people used in the study were randomly selected students and non-students ages 16 years and older. No time limit was included in the study. Shettel used a pre- and posttest approach to the study. Test questions were directed to obtain information on changes in attitudes and ecological knowledge of the participants as a result of viewing the exhibit. Pretests and posttests were similar in nature. Shettel found that 80 percent of the people showed significant improvement in their attitudes and knowledge of ecology.

Shettel and Nichol have established that museum exhibits can be evaluated and that they can affect the knowledge and attitudes of visitors.

CHAPTER 3

DESIGN OF STUDY

Subjects

The participants were 36 male and female seventh and eighth graders, 18 from an exploratory learning center and 18 from the Arizona School for the Deaf and Blind. The students were divided according to their grade level into 3 groups of 12 children. Group 1 consisted of 12 sighted seventh-grade students from the exploratory learning center. Group 2 consisted of 6 sighted eighth-grade children from the exploratory learning center and 6 visually impaired eighth-grade students from the Arizona School for the Deaf and Blind. Group 3 consisted of 12 blind seventh-grade children from the Arizona School for the Deaf and Blind.

The exploratory learning center was used because of its proximity to the University of Arizona Museum of Art and the availability of seventh and eighth graders at the school. The Arizona School for the Deaf and Blind possesses the only body of legally blind seventh and eighth graders in Tucson. All strata of the socioeconomic scale were not present, and no control existed over the ratio of females to males because of the small number of available blind students. All students used in the study were volunteers.

Instrument

The instrument used in the study was developed by Emory L. Cowen, Rita Underberg and Ronald Verrillo in 1958 and was published in 1961 by the American Foundation for the Blind. It is an attitude-to-blindness scale and was originally intended to be used to measure the attitudes of sighted adults towards blindness. The test was created with the help of teachers and administrators from schools for the blind. It was administered by the authors to several groups of sighted adults to establish the test's reliability. The investigator consulted the teachers of the participating children about the vocabulary level of the test. The teachers agreed that the vocabulary level was appropriate for their students. The test initially consisted of 30 statements but was reduced to 29 assertions. The statement "It makes me feel a little guilty to know that I can see and others cannot" (Cowen, Underberg and Verillo, 1958, p. 299) was unanswerable by the totally blind in this study and was eliminated. No other adjustments were made on the test (see Appendix A).

The test was scored according to the following guidelines: 29 statements were divided into positive and negative assertions towards blindness. Four optional responses were provided for each statement on the answer sheet (see Appendix B). The responses were strongly agree, mildly agree, mildly disagree, and strongly disagree. Cowen et al. (1958) established the evaluation system as follows: "The responses were weighted one, two, three and four respectively in case of positive items and exactly the opposite for negative items" (p. 298). The higher

the total score obtained, the more negative the attitude to blindness a person possesses. The possible range of scores are from 29 to 116. A score of 29 would indicate a person possesses the most detectable positive attitude to blindness. A score of 116 would denote that a person possesses the most detectable negative attitude to blindness.

Procedure

The number of students in each group was determined by the number of blind children available in each grade level used. There are only 6 visually impaired eighth-grade and 12 visually impaired seventh-grade students enrolled at the Arizona School for the Deaf and Blind. All of these children were used in this study. The 6 sighted eight-grade and 12 sighted seventh-grade students used in this study were randomly selected from a larger population of seventh- and eighth-grade students at the exploratory learning center.

The six sighted eighth-grade students who participated in the combined group were given a preliminary workshop on touring an exhibit with the blind. The purpose of this workshop was to prepare these students to participate in the combined tour. The workshop was scheduled 10 days before the children were to participate in the combined tour and 5 days before they were to be given the pretest. Blue Bickford, Director of the School for the Deaf and Blind, conducted the workshop, which lasted two hours. Mr. Bickford emphasized three points in his presentation: (1) the cause and treatment of blindness; (2) the basic similarities between blind and sighted were presented; (3) the treatment of the blind by the sighted in public areas was analyzed. A question-

and-answer period ensued whereby students and Bickford exchanged ideas about relationships with the visually impaired.

Five days before touring the exhibit, the Attitude to Blindness Scale was administered orally to all subjects by their teachers in their classrooms. The oral presentation was executed to allow the blind to respond to the statements. The children were instructed that there were no correct answers and that they should respond according to their opinions. The time period for the test was 30 minutes. Large-letter type and braille answer sheets were used for the totally blind and extremely visually impaired subjects.

The tours of the Hands On Japan exhibit were given by trained museum docents. The students viewed a Japanese artistic demonstration, play or musical performance which lasted from 30 to 45 minutes in length. These activities were executed in close proximity to the exhibit area. Immediately after the educational activity, the children entered a tea area where objects from a tea ceremony were displayed. The tea area was adjacent to the main exhibit hall. In this space, art works were exhibited which included Japanese ceramics, sculptures and textiles. Flowers, Japanese tea and tape-recorded Japanese traditional music were present in the exhibit hall. Flowers were used to appeal to the sense of smell. Japanese tea was distributed to the subjects to appeal to their sense of taste. Japanese traditional music was played from a tape recorder to appeal to the sense of hearing. The students were allowed to touch non-fragile art pieces. Japanese customs, artistic processes and stories of the lives of famous blind people in Japanese history were

told by the docents to the children. The tours averaged one hour in duration.

The day after the subjects toured the Hands On Japan exhibit the Attitude to Blindness Scale was administered in the children's classrooms. The answer sheets for the pretest and posttest were scored by the investigator.

CHAPTER 4

RESULTS

Subtracting pretest from posttest scores yielded the measures of attitude change that were used in this study. A one-way analysis of variance was performed on the mean gain scores for each group. A subsequent analysis of covariance examined the differences in pretest scores among the three groups and adjusted the mean gains accordingly. A post hoc multiple classification analysis identified performance differences among students in the experimental groups.

According to the analysis of variance, all subjects showed a significant improvement in their attitudes towards blindness regardless of experimental treatment, $F(1,71) = 17.979$, $p < .0004$ (see Table 1). Differences between groups and the groups-by-trials interaction were nonsignificant.

The standard deviations of pretest and posttest scores varied among the three experimental groups (see Table 2). The group of blind students displayed the lowest standard deviations on both pre- and posttests. Standard deviations of pretest scores from the group comprised of both blind and sighted students and from the group of all-sighted students were almost identical, although scores from blind/sighted children's posttests had lower standard deviations than posttests from sighted subjects.

Table 1. Analysis of variance

Source	<u>MS</u>	<u>df</u>	<u>F</u>	<u>p</u>
Between Groups	154.39	2	1.03	NS
Trials	133.39	1	17.98	.0004
Within Groups by Trials	18.39	2	2.48	NS
Error	7.42	33		
Total	79.72	71		

Table 2. Means and standard deviations for pretests and posttests by treatment groups

Treatment	Pretest Mean	Sd	Posttest Mean	Sd	Mean Gain
Group					
Sighted	49.75	10.97	47.08	10.39	2.67
Sighted and Blind	45.92	10.23	41.42	8.64	4.50
Blind	48.08	4.07	47.08	2.75	1.00

When differences occur in pretest mean scores in a study where a small number of subjects has been randomized, an analysis of covariance may be performed to increase power (Huch, Cormier and Bounds, 1974). The analysis of covariance performed on these data indicate significant differences in pretest scores of all three groups, $F(1,35) = 171.87$, $p < .001$ and significant differences in attitudinal change among groups with adjusted pretest mean scores, $F(2,35) = 3.90$, $p < .03$ (see Table 3).

Table 3. Analysis of covariance

Source of Variance	Sum of Squares	<u>df</u>	Mean Square	<u>F</u>	<u>p</u>
Covariate Pretest	2,060.48	1	2,060.48	171.87	.001
Adjusted Group with Posttest Difference	93.52	2	46.76	3.90	.030
Error	383.65	32	11.98		
Total	2,537.64	35	72.50		

A post hoc multiple classification analysis indicated that the group consisting of both blind and sighted children showed significantly more gain on the adjusted posttest mean scores than either the group of all-sighted or the group of all-blind students. The adjusted posttest means of these two latter groups did not differ significantly from each other.

CHAPTER 5

DISCUSSION

The analysis of data in the previous chapter support the hypotheses of the investigator. All students involved in this study showed a significant positive improvement in their attitudes towards blindness. As compared to each other, neither the blind or the sighted uncombined groups displayed a more positive attitudinal improvement towards blindness. The students participating in the combined tour exhibited a more positive attitudinal improvement towards blindness than the children included in the uncombined tours.

There are several conclusions that can be drawn from the results. The multisensory exhibit, Hands On Japan was successful in conveying its main educational objective; to show the Japanese treatment of the visually impaired as productive members of society. The use of a combined tour, where sighted students had physical contact with blind children in the exhibit, proved to be a more effective method of conveying a positive attitude towards blindness than the uncombined tours. It can be concluded that this educational method is valid to the degree that it was employed and tested. The results also indicate that the blind subjects gained a more positive self-image. Another purpose of the exhibit was to improve the blind participants' attitudes towards their blindness. It accomplished this goal.

It can be speculated that the use of blind figures in Japanese history in this exhibit contributed towards fostering a better self-image for the blind children. The standard deviations of the three experimental groups indicates that the blind children's attitudes towards blindness are more consistent than the sighted children's attitudes towards blindness. It can also be conjectured almost simplistically that blindness in itself might give a blind person a better understanding of blindness.

Several errors in the structure of this research design appeared that may have biased the results by introducing uncontrolled variables. The combined tour used eighth graders while the uncombined tours used seventh graders. This difference in the age of the students might have affected the ability of the younger children to comprehend some of the advanced concepts of blindness. The sighted children in the combined tour received a preliminary workshop on blindness before they took the pretest. This workshop introduced to the students concepts of blindness; however, other children in the study weren't exposed to these concepts. Three different teachers administered the pre- and posttests. Although the instructions were identical, this brought into the study inconsistencies in the presentation of the tests. Each touring group viewed a different artistic demonstration or theatrical performance. The information on the different areas of Japanese culture and blindness, dispersed to the students, varied with each group. The difficulties encountered in this study, especially in the sample selection, were similar to obstacles

present in other educational research projects which are conducted under non-laboratory conditions.

There were several implications generated by this study which call for future research. If this study was to be replicated, investigation could be done on the impact of the preparatory session on the sighted subjects who were involved in the combined group. Questions raised in this study would include the following: (1) How much of an educational effect was produced by the preparatory session? (2) Did the use of the preparatory session affect the test scores of the sighted subjects? (3) Did the length of the preparatory session affect the test scores of the sighted subjects?

Replication of this study could determine which subgroup of students involved in the combined group gained a more positive attitude towards blindness. Larger numbers of blind and sighted subjects would be needed to construct this study. The interaction of sighted and blind children in a combined group could be observed. The test results of each subgroup of blind and sighted involved in the combined tour could be compared to the uncombined groups of blind and sighted students. Questions raised in this study would include the following: (1) Will the subgroup of blind children participating in the combined tour display a more improved positive attitude to blindness than the uncombined blind group? (2) Will the subgroup of sighted subjects participating in the combined group display a more improved positive attitude to blindness than the sighted uncombined group?

Future studies can also compare the attitudinal effects of adults and children who are participating in a similar exhibit. Replication of this study can be performed with other handicapped groups such as the deaf, physically disabled, or mentally retarded.

This study is intended to contribute to art education as it relates to the visually impaired museum visitor. The lack of research in this area is a major problem facing art educators. The educational format of this exhibit can be used for future multisensory and cultural exhibits. Museums must adapt to the increase of visually impaired visitors in their institutions. The issue of whether museum administrator and art educators should use art to introduce new ideas, cultures and attitudes to the handicapped visitors will be decided by the individual museums. This study and similar research projects can help to determine the direction of museums and their education departments. Museums may become the doorways of aesthetic experience for handicapped and non-handicapped visitors.

APPENDIX A

ATTITUDE TO BLINDNESS SCALE

ATTITUDE TO BLINDNESS SCALE

1. A blind person might as well accept the fact that blindness makes people pretty helpless.
2. On the whole, the blind are used to failing in most of the things they do.
3. On the whole, blind children seem to be less intelligent than sighted children.
4. A blind person should not have to meet the same standards as others.
5. Blind people are constantly worried about the future.
6. Blindness has little or no effect upon intelligence.
7. A blind person is not afraid to express his feelings.
8. A blind person can never really be happy.
9. Most blind people are dissatisfied with themselves.
10. A blind person can't afford to talk back to people.
11. One can live in a competitive society and compete successfully without sight.
12. You should not expect too much from a blind person.
13. Most blind people feel that they are worthless.
14. It is impossible to know the beauty of the world without sight.
15. My attitude towards a blind person would be based more upon his personality than upon the fact that he is blind.
16. Blind people do not have as much initiative as sighted people.

17. It is very difficult to make a blind person change his mind once he has decided on something.
18. It must be bitterly degrading for a blind person to depend so much upon others.
19. Many blind people are economically independent.
20. Blind people are more easily upset than sighted people.
21. Most blind people think and act alike.
22. It's difficult to understand the blind because they keep so much to themselves.
23. There are things worse than being blind.
24. Acceptance of blindness is the same thing as acceptance of anything else in life.
25. The blind adult is not quite as mature or grown up as the sighted adult.
26. Blindness does not change the person any more than any other physical handicap.
27. The blind have as many interests as the sighted have.
28. I feel that blindness is as hard to bear as complete paralysis.
29. A blind person is constantly worried about what might happen to him.

APPENDIX B

ANSWER SHEET

ANSWER SHEET

Direction: Answer the statement read to you by putting a check (✓) next to the letter that matches the four answers on the top of this sheet. There is no correct response and you should answer according to your feelings.

	a) Strongly agree	b) Mildly agree	c) Mildly disagree	d) Strongly disagree
1.	a) _____	b) _____	c) _____	d) _____
2.	a) _____	b) _____	c) _____	d) _____
3.	a) _____	b) _____	c) _____	d) _____
4.	a) _____	b) _____	c) _____	d) _____
5.	a) _____	b) _____	c) _____	d) _____
6.	a) _____	b) _____	c) _____	d) _____
7.	a) _____	b) _____	c) _____	d) _____
8.	a) _____	b) _____	c) _____	d) _____
9.	a) _____	b) _____	c) _____	d) _____
10.	a) _____	b) _____	c) _____	d) _____
11.	a) _____	b) _____	c) _____	d) _____
12.	a) _____	b) _____	c) _____	d) _____
13.	a) _____	b) _____	c) _____	d) _____
14.	a) _____	b) _____	c) _____	d) _____
15.	a) _____	b) _____	c) _____	d) _____
16.	a) _____	b) _____	c) _____	d) _____
17.	a) _____	b) _____	c) _____	d) _____

- | | a) Strongly Agree | b) Mildly Agree | c) Mildly Disagree | d) Strongly Disagree |
|-----|-------------------|-----------------|--------------------|----------------------|
| 18. | a) _____ | b) _____ | c) _____ | d) _____ |
| 19. | a) _____ | b) _____ | c) _____ | d) _____ |
| 20. | a) _____ | b) _____ | c) _____ | d) _____ |
| 21. | a) _____ | b) _____ | c) _____ | d) _____ |
| 22. | a) _____ | b) _____ | c) _____ | d) _____ |
| 23. | a) _____ | b) _____ | c) _____ | d) _____ |
| 24. | a) _____ | b) _____ | c) _____ | d) _____ |
| 25. | a) _____ | b) _____ | c) _____ | d) _____ |
| 26. | a) _____ | b) _____ | c) _____ | d) _____ |
| 27. | a) _____ | b) _____ | c) _____ | d) _____ |
| 28. | a) _____ | b) _____ | c) _____ | d) _____ |
| 29. | a) _____ | b) _____ | c) _____ | d) _____ |

APPENDIX C

PERMISSION FORM

All children and their parents from the exploratory learning center located in Tucson Unified School District were asked to sign a permission form. This procedure, instituted by Tucson Unified School District, is designed to reveal to parents any possible health dangers in research projects involving their children. All children selected to participate were asked to give the document to their parents. The documents explained the Hands On Japan exhibit and the testing that was to be done. All of the parents returned the permission forms signed.

Permission Form

Dear Parent of Guardian:

The exploratory learning center will participate in the University of Arizona Museum of Art's exhibit, Hands On Japan, A Sensory Experience for Blind and Sighted. The exhibit's main educational objective is to convey the Japanese attitude towards blindness. In Japan, blind people are looked upon as possessing special talents that can be shared with all of society. There will be two kinds of tours, combined tours of both blind and sighted and uncombined tours of only blind or sighted. Joseph Sgromo, graduate student in Art Education, will evaluate the seventh- and eighth-grade students who will participate in the exhibit. The information received from this evaluation can help to determine whether the museum will use combined or uncombined tours. The

museum's goal is to maintain its high standard of education by researching the best possible touring method. All participating students and their parents have the right of inquiry and the freedom to withdraw from the project at any time. Confidentiality of data will be guaranteed by the researcher, Joseph Sgromo. Data will only be available to the researcher, Joseph Sgromo, Tucson Unified School District, Arizona School for the Deaf and Blind, and Dr. Robert L. Cardinale, advisor to the project. The researcher reserves the right to use any information from the study to publish articles in educational journals.

I have read the permission form. The nature, demands, risks and benefits of the project have been explained to me. I understand that I may ask questions and that I am free to withdraw from the project at any time without incurring ill will. I also understand that this permission form will be filed in an area designated by the principal investigator and access will be restricted to the principal investigator and authorized representatives of the particular department. A copy of this permission form is available to me upon request.

Student's Signature _____

Date _____

Parent or Guardian's
Signature _____

Date _____

REFERENCES

- Bounds, W. B., Cormier, W. H., and Huch, S. W. Reading statistics and Research. New York: Harper and Row, 1974.
- Butcher, M., Cotton, T. S., Northrup, J., Shettel, H. H., and Slough, D. C. Strategies for determining exhibit effectiveness. Pittsburgh, Pennsylvania: American Institute for Research, 1968. (ERIC Document Reproduction No. ED 026 718).
- Cowen, E. L., Underberg, R. P., and Verrillo, R. T. The development and testing of an attitude to blindness scale. The Journal of Social Psychology, 1958, 48, 297 304.
- Mallary, L. Why and how we produced this issue. Arts for the blind and visually impaired. New York: The National Arts and the Handicapped Information Service, April 1978.
- Mulcahy, P. A. A gallery of the senses. Arts for the blind and visually impaired. New York: The National Arts and the Handicapped Information Service, April 1978.
- Nice, E. Form in the inner eye. Arts for the blind and the visually impaired. New York: The National Arts and the Handicapped Information Service, April 1978.
- Nichol, E. H. The development of validated museum exhibits. Boston: Children's Museum, 1969. (ERIC Document Reproduction No. ED 035 038).
- Reid, M. R. Exhibition for the visually impaired. Arts for the Blind and visually impaired. New York: The National Arts and the Handicapped Information Service, April 1978.
- Shettel, H. H. An evaluation of visitor response to "Man in His Environment." Washington, D.C.: American Institute for Research in the Behavioral Sciences, 1976. (ERIC Document Reproduction Service No. ED 141 078).
- Snider, H. Museums and the blind. Arts for the blind and visually impaired. New York: The National Arts and the Handicapped Information Service, April 1978.

