Experiential Design

A Thesis Submitted to the Faculty of
the College of Imaging Arts and Sciences
in Candidacy for the Degree of
Masters of Fine Arts

Department of Graphic Design

By Laurel Sisson
Rochester, New York

May 21, 1993

Approvals

Advisor: Professor Deborah Beardslee

Date: 21 May 1993

Associate Advisor: Dr. Richard Zakia

Date: 25 May 1993

Associate Advisor: Professor Pamela Blum

Date: 5/13/93

Special Assistant to the Dean for Graduate Affairs:
Professor Philip Bornarth

Date: 6/2/93

Dean, College of Imaging Arts and Sciences:
Dr. Margaret Lucas

Date: 6-11-93

I, Laurel Sisson , prefer to be contacted each time a request for production is made. I can be reached at the following address:

202 Adahi Rd/ Vienna, Virginia/ 22180

Date: May 21, 1993

To those I have only met, yet have always known

Acknowledgements

As I begin to see the real world for the very first time, I must stop to thank those who have helped in my journey. Special thanks to my family for their support and encouragement and those who have guided me to higher levels of intellect: Deborah Beardslee, R. Roger Remington, Pamela Blum, and Dr. Richard Zakia. Most of all, I thank those who continue to truly inspire me through their own music and art.

experience
fosters
understanding

Experiential design is based on the premise that experience fosters understanding. As the design experience becomes more complex and layered, the significance of design also increases. The result is effective communication.

Experience is a broad term that encompasses three major categories related to time: past, present, and future (fig. 1). This thesis project briefly describes the relationships of these categories, then concentrates on sensory perception for the actual thesis application.

This sensory analysis approach to design is a direct response to our visually-oriented, technological age. Modern perception is predominantly visual, sometimes overlooking our other conscious senses: touch, hearing, smell, and taste. This thesis proposes that designs which encompass these other senses radically enhance the total communication experience.

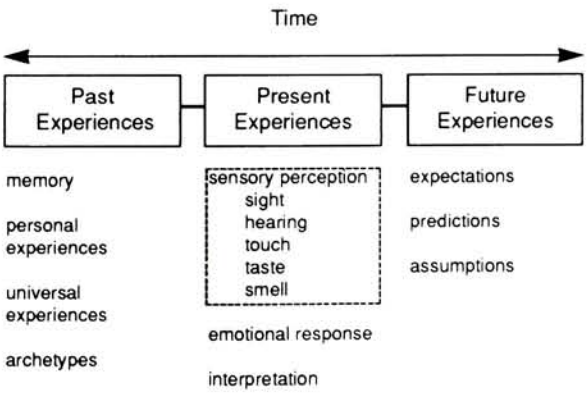


Fig. 1. **Experience Model**. Dashed box denotes area of thesis project concentration.

Table of Contents

Acknowledgements

Preface

List of Illustrations

Introduction 1

Proposal Development and Research 3

Project Development 13

Application 17

Evaluation 37

Conclusion 45

Works Cited 47

Bibliography 49

Appendices

A Initial Thesis Proposal Statement

B Final Thesis Proposal

C Display Panel Documentation

D Project Manual Documentation

E Interactive Computer Program Documentation

F Displayed Objects and Project Application

G Evaluation Examples

List of Illustrations

Figure

1. Experience Model iii
2. Matrix: Homelessness and the Senses 12
3. Matrix: Sensory Analysis Approach 14
4. Reality/Abstraction Spectrum 17
5. Model of Various Media in Communication 19
6. Display Panels 30
7. Project Manual Sample 32
8. Interactive Computer Program Sample 34
9. Evaluation Questionnaire Sample 36

the influences of anthropology and communication

Two fields of inquiry, cultural anthropology and communication, inspired and motivated this thesis project. Strong beliefs that our society can learn a great deal from our primitive ancestors and their methods of communication led to the initial thesis proposal entitled, "Primitive Perception: An Exploration in Multi-Sensory Design and Symbolic Organizational Methods" (see Appendix A). The focus on primitive perception developed into an investigation of the topic of multi-sensory design. The sensory analysis approach to design is the only surviving element from the initial proposal in the thesis project and application.

Communication involves the transfer of a message from a sender, through a channel, to a receiver. Visual communicators are concerned with the visual interpretation of encoded messages. Graphic design implies the use of a visual medium; however, depending on the nature of the message, communication can also stimulate other senses. The immediate goal of the sensory analysis approach is a more effective design through heightened experience. The ultimate goal is to communicate a meaningful message.

The application topic, homelessness, demonstrates the sensory analysis approach in the design process while communicating a prosocial awareness message to the audience.

The proposal stage of the thesis project began with research on the initial statement. This research precipitated numerous revisions and modifications to the proposal until the end of the fall quarter. The final proposal suggested an investigation of all aspects of experiential design. After considering the numerous variables surrounding experiential design, one area of experience, sensory perception, became the focus for the project and application.

Initial Proposal Statement

The initial topic was based on the premise that "in our highly technological society we have forgotten our primitive values" (see Appendix A). This early thesis statement proposed an investigation of primitive perception and the powers of the senses.

primitive cultures

The study of primitive cultures has much to offer our "advanced" society. Although we have made great strides technologically, our culture could learn important values from the social structure of our distant ancestors in primitive cultures. Unfortunately, primitive and modern cultures differ in their basic needs. The hierarchy of these needs indicate the value structure of a particular culture. The current values, or lack thereof, form the basic characteristics of a culture.

In a primitive culture, survival is the basic motivating force behind all activity. This requires a close interaction with the natural world. Activities such as rituals mark changes in seasons which correspond to planting or harvesting. The knowledge of these natural cycles requires a complete perceptual understanding of the physical elements in nature.

primitive communication

Communication begins with a message which is first encoded, then sent, and finally received. Similar to primitive times, we use verbal messages and written symbols which provide the basis for our spoken language and writing. Despite the dominance of sound and sight in communication, it is probable that primitive cultures relied heavily on other senses for survival, whereas we do not.

It is a misconception that our primitive ancestors had different powers of sensory perception from our own. "Each perceives better those objects which are important to him in the conduct of life, and to which he is in the habit of paying attention, than he does objects which are meaningless to him" (Aldrich, 1969). This statement implies that our modern culture is neglecting our full sensory capabilities because all of the senses are not necessary for survival. We tend to use sight and sound for communication and our other senses for pleasure. This neglect is truly unfortunate considering that "our senses . . . connect us in ways that most of our cherished ideas never could" (Ackerman, 1992).

At this early point in the thesis proposal and research stage, it was evident that the senses and their relation to the process of experiencing could be a complete topic alone. Preliminary research in primitive cultures now provided a contrast to the study of modern communication experiences.

Final Proposal

The entire realm of experience (fig. 1) is very complex and encompasses many fields of inquiry such as: past experiences, sensation and perception, and future expectations based on prior experiences. This complexity often made it difficult to stay focused on only those concepts related to design and communication. Due to the time limitations of this project, the modes of experience (past, present, and future) were investigated on a surface level only. This research helped to provide context for the project's development.

varied experience

The function of "varied experience" was a significant discovery while researching the general modes of experience. Varying the stimuli in a given context will create interest whereas repetition causes alertness to decrease.

> Variation in stimulation can occur not only when the external environment changes but also when the organism itself behaves. And even the reaction to an externally produced change in stimulation provides new stimulation or experience.
>
> Fiske and Maddi, 1961

This supported the validity of using multiple sensory stimuli in design. By increasing awareness of the senses, perceptual capabilities are encouraged. In this way, monotony would be avoided as well. In the final thesis application, varied media are used to compare multiple sensory stimuli and retain audience interest. It is especially effective in the educational field to vary the experience because each individual student processes information differently.

sensation

Although the world of our senses is an innate part of our existence, we often overlook what is closest to us and deny our vast sensory capabilities. To a certain degree, we can survive on limited sensory stimulation (sight and hearing). Dangerous materials are usually marked clearly so that we do not have to directly sense them. However, we often crave our other senses for pleasure (smell, touch, and taste). Would addressing more of the senses in design make a more meaningful experience or would it approach a level of unnecessary complication?

We can address the senses, directly or indirectly, through the different forms of media used in design. Direct stimulation occurs when we actually see a word or image, hear a sound, smell a scent, and so on. A direct stimulation design application occurs when a perfume advertisement provides the actual scent of the perfume itself. Indirect stimulation, or synesthesia, occurs when one sensory cue stimulates another sense. For example, a photograph of an apple might cause us to imagine the apple's flavor and sound when we bite into it. The cognition of gustatory and auditory stimulation in this case is a synesthetic response. The indirect method is an effective way of simulating the actual experience of the original object.

perception

Perception covers two main states of being: consciousness and unconsciousness. Conscious perception receives information from the five senses (sight, hearing, touch, taste, and smell). Unconscious perception encompasses our intuitive and emotional responses. Would designs that stimulate multiple senses, even at unconscious levels, be more useful in captivating an audience? If so, in which situations would multi-sensory designs be most appropriate? Aspects of these questions resurfaced in the final application of the thesis project.

Homeless

	clothing	ground surface	shelter	money	food
sight	· baggy · ripped clothes · blanket · wrinkled · torn gloves · patched · drab / dark · faded	· texture · dark · dirt, grit · wet · rough · oily	· crowded · box · tent · unstable / collapsible · found metal	· change / metal · panhandling · copper · wrinkled	· old · crumbs · discarded · colorless
sound	· ripping · unraveling · struggle	· foot steps · car skid · puddle · rain · echo	· rain · railways · traffic	· change being dropped	· eating · soggy · wrappers · trashcan lid
touch	· tearing · layers · holes · wet · worn	· hard · wet · rough · uncomfortable · cold	· unstable · grate / steam · cold	· cold · wrinkled · small · light · empty · worn	· stale · cold · eaten · crumbs · soggy
taste	· soiled · wet · exhaust / smoke	· cold · dirty · wet	· wet · cold	· pennies · copper · dirt	· stale · no flavor · cold · garbage · rotten
smell	· smoky · unclean / sweat · rotten · soiled	· worms · oil / gasoline · cold	· box · exhaust	· cold · used	· cold · rotten · sour / foul · indistinctive

Home

sight	· fitting · colorful · new · worn · creased / pressed	· clean · smooth · colorful · inviting	· stable · secure · warm	· wallet · silver · credit cards · jewelry · materialistic possessions	· steam - warmth · flavor · whole · freshness · color
sound	· friction · squeaky · jewelry · shoes	· shoes · carpet	· door · music · soundproof	· change · crisp · cash register · jewelry · car · music	· tea pot · freshness · crunch · cooking · pouring
touch	· comfortable / fitting · soft · warm · new · clean	· warm · smooth · even · clean	· warm · fine / staple materials · dry ~~· paper~~	· plastic · paper · heavy / full	· hot · fresh · clean · dry
taste	· clean	· clean · "lemon fresh" · smooth	· food · cooking	· dry · plastic	· spicy · sweet · smooth · distinctive
smell	· perfume · clean / washed · fine fabric (wool...)	· fresh · floral · clean	· food · disinfectants / cleaners · "new" carpeting / furniture	· crisp · new money · leather · perfume	· fresh · distinctive · hot · sweet / spicy...

choosing a topic

Upon completion of a finalized proposal, the project development stage began. The first step was to choose an application topic that could fulfill the objectives in the project proposal (see Appendix B). The topic would have to contain a variety of sensory stimuli, be presented in several mediums, and remain a unified system. After generating an array of topics, it became evident that conveying a strong social message would be beneficial criteria for the project. The generated topics focused on three main areas: environmental (recycling, endangered animals), social (homelessness, AIDS, crime), and political (economics, military, equal rights). After much deliberation, homelessness was chosen to be the topic of a hypothetical educational program.

The synthesis of different media into one unified design system was a suitable plan for an educational program. The diversity in learning styles among students would be addressed through using various media. Developing the logistics of the educational package was more complex than expected. There were many variables to consider: the mediums, the activities in the program, the presentation package, and the role the senses would play throughout the entire system. It was often difficult to conceptualize the synthesis of all of these areas while focusing on the topic of homelessness.

the matrix

A useful way of organizing a lot of information is to construct a matrix. One of the early matrixes in the project development stage focuses strictly on the relationship between the five senses and the physical and emotional experiences of someone who is homeless (fig. 2a). A parallel matrix investigates someone who is not homeless (fig. 2b).

Fig. 2. *a (above)* **Matrix: Homelessness and the Senses**, *b (below)* shows the sensory experiences of a non-homeless person.

Sensory Analysis Matrix

L. Sisson 4/8/93

original objects	crate	blanket	can	shoes	eyeglasses	newspaper	plastic bag	cardboard box
natural characteristics	wood brown dirty rough flat hard	wool fibrous woven warm color:yellow amorphous	metal cold silver reflective smooth ridges cylindrical hard	worn dirty flexible color: synthetic rubber soft hard	plastic black transparent smooth scratched light hard	thin/thick light/heavy smooth/sharp black/white flexible	black amorphous thin elastic smooth	smooth textured brown flexible
sensory characteristics								
physical sensations	visual tactile *texture* olfactory	visual tactile *texture* *temperature* olfactory	visual tactile *texture* *weight* auditory	visual tactile *texture* *shape* olfactory	eye visual tactile *shape*	visual tactile *thickness* auditory olfactory	visual tactile *texture* auditory	cd visual tactile *texture* olfactory
primary synesthetic sensation	tactile	tactile	tactile	olfactory		tactile	tactile	tactile
functional use								
uses to homeless (prioritized)	carry objects sit on	warmth bundle belongings	food container recycle	wear	wear	bedding warmth (covering) fire read	carry belongings shelter	shelter
semiotic representations								
iconic								
indexic	grocery store public market produce	bed closet	label food can opener shelves	feet socks shoe prints	eyes eye glass case	news stand	trash can dumpster	product packaging alley dumpster
symbolic								
design implementation								
sequential order	1	4	5	2	3	6	7	8
primary role in project	project container	scenario	food drive information	scenario	scenario	scenario	recycling project	scenario
activity	sit on while at computer	wear		wear	wear	wear	collect cans	symbolize shelter
printed components								
traditional manual	photograph emboss	photograph emboss	photograph emboss	photograph	photograph	photograph	photograph	photograph emboss
non-traditional manual	wood	fabric panel	sheet metal		plexi-glass	newspaper		cardboard
electronic component								
multi-medial program	image	image ripping sound	image	image	image	image	image	image

The development of these matrixes proved to be an important part in the process because the elements of the topic and their relation to the project were able to be clearly classified and compared. From these matrixes, visual depictions of the items were collected. Not all of the items on the matrix could be found in a visual form. This search helped to identify areas that required special attention later. For example, items related to the sense of touch were easy to find, whereas elements relating to the sense of smell were more difficult to find.

A more complex version of these matrixes was used later in the project development to illustrate how the senses related to the actual educational program on homelessness. (fig. 3) This matrix also showed the sensory analysis approach in use during the design process.

objects and activities

During the majority of the project development stage, many objects related to homelessness were planned to be included in the educational package. Each object would be associated with one of the five senses. For example, a blanket would signify touch, a canned food would signify taste. The activities suggested in the program would correspond with the objects and reinforce each appropriate sense. This approach generated many ideas useful to the project. However, in the final application this procedure was modified. Instead of trying to force certain objects, activities, and the appropriate sense together, objects were chosen by their relation to the topic of homelessness first. Then an activity was designed to utilize the object effectively in relation to as many senses as possible. Information gathered from this phase was helpful in designing the final application.

Fig. 3. **Matrix: Sensory Analysis Approach**

The objective of graphic design is to visually communicate a message. It is the designer's responsibility to analyze the original object or concept and effectively transpose it through a particular medium. In the research stage, a designer often gathers visual imagery related to the subject. A design may range from having a clear, direct message and layout to having a more abstract, indirect message and layout (fig. 4). The ambiguity in the abstract design will cause interest or possibly confusion if the viewer is not familiar with the specific code. The chosen medium may also add another layer of abstraction.

An exhibit that closely simulates a realistic environment is on one end of the spectrum of experience while a work printed on paper is more abstract, relying on words, symbols, and images portraying the original experience. An example of the contrast between real and abstract would be a museum exhibit which re-creates the entire environment of displayed works of art or artifacts, and a printed brochure which uses verbal descriptions and imagery. The experience of walking through the exhibit is completely different from reading the brochure.

Fig. 4. **The Reality/Abstraction Spectrum** showing examples of the relationship between designs closely depicting elements of reality and those which are more abstract. The abstract designs must use words, symbols, and imagery to communicate an experience.

The degree of clarity from the original concept to the application is the designer's discretion. A close interpretation of the original, afforded by *non-traditional medium* (fig.5), will possess many of its physical characteristics and directly stimulate the senses. A more abstract interpretation, such as a *traditional printed or electronic media*, will be farther away from the original and only contain suggestive characteristics. The senses will rely on indirect stimulation, or synesthesia.

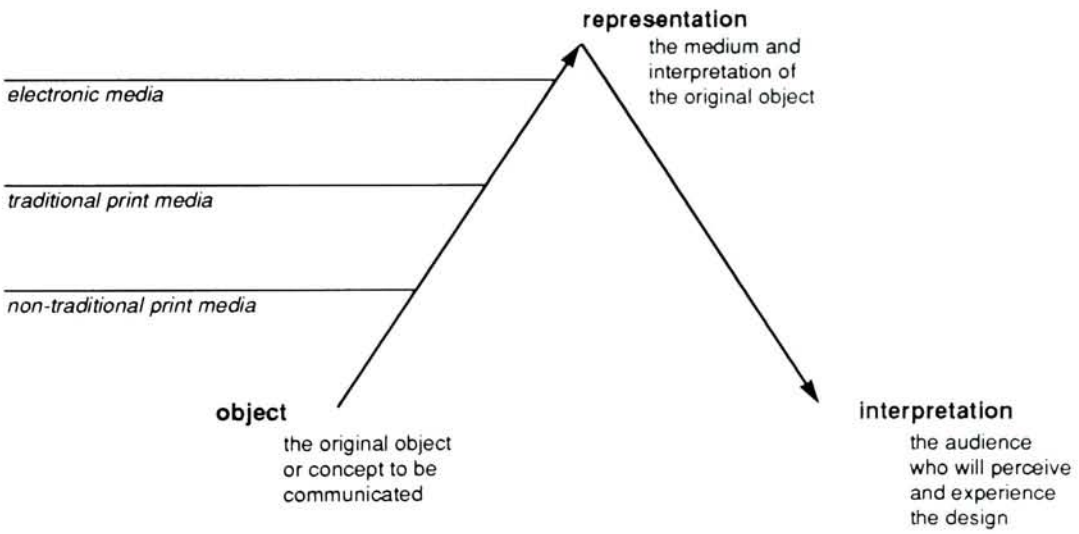


Fig. 5. **The Model of Various Media in Communication** shows the relationship of *direct* and *indirect media* in the experiential process from the **object**, its design **representation**, to the audiences **interpretation** (adapted from Zakia's Semiotic Model).

Limitations of different media

Not every media lends itself to directly addressing all of the senses. Different formats of communication, such as printed or video/electronic, afford different sensory stimulation. In order to address several senses, different media can be incorporated into one project. The senses that cannot be stimulated directly may be addressed through synesthesia.

The diagram in figure 5 illustrates the relationships between the original object or concept, the different mediums that interpret this concept, and the perceiving audience. The educational program on homelessness utilizes three forms of media, (direct materials, print, and interactive computer) and focuses on the primary sensory stimulation that each medium affords in relation to the topic. For example, physical materials and textures associated with homelessness are emphasized in two of the media. The interactive computer program focuses on recorded sounds related to homelessness.

Educational Program Proposal

> In the original frame of our mind, our strongest attention is confined to ourselves; our next is extended to our relations and acquaintances; and 'tis only the weakest which reaches to strangers and indifferent persons.
>
> Hume 1896

purpose

In our society, individuals frequently overlook the external consequences of their personal actions and view both local and international problems as the responsibility of someone else. "People learn to help through reinforcement, the effects of rewards and punishment for helping, and modeling, observing others who help" (Sears et al. 1985). Without proper reinforcement and positive models, people become separated from their social obligations and concerns. Soon, the initiative to solve external problems is too distant from the personal concerns of each individual. This unfortunate state will only increase current problems, ultimately affecting every individual, concerned or not.

Intrinsically, most "people would like to help [a person or worthy cause, but] they realize that costs [of some kind] are involved, costs that they would perhaps rather not assume" (Sears et al. 1985). Through an interactive learning program that emphasizes prosocial behavior early in their development, children will be encouraged to be responsible adults.

> Like all propositions of common-sense morality, the supposition that we have special responsibilities toward some people but not toward others is rooted most firmly in our intuitions about concrete cases. It may be hard to characterize these special responsibilities in any general terms, but 'the mere enumeration of them is not difficult.'
>
> Goodin 1985

InterAction: "an interactive educational program that gets young people involved in the world around them"

InterAction is a proposed interactive educational program that gets young people involved in the world around them. The audience for this program is comprised of children ranging in ages from 8-12, grades 3-6. The program consists of a series of prosocial activities for young people. Enhancing and varying each experience will directly influence the interest in the given topics. Distributed monthly, the program will be accessed through a school for classroom use. Individuals may also choose to subscribe to the program on their own. Each activity will involve an issue under the topic of social ethics and responsibility. The issues and their corresponding activities will influence the participants to widen their "international, inter-generational, and interpersonal responsibilities as well as [their] duties toward animals and natural environments" (Goodin 1985). The activities and information will be extremely diverse and varied.

design considerations

To retain interest in the program, the format, participation level, and degree of responsibility of each activity varies each month. The characteristics of each issue also varies in order to intrigue and stimulate the participant. These characteristics include: syntax (the design style and elements used), semantics (the meaning and appropriateness of the design elements in relation to the issue's topic), and the pragmatic concerns of the format (the physical and practical considerations and limitations). By changing the format of each activity and addressing all of the senses over a period of time, a range of significant experiences for the students will result.

sample topic: homelessness

audience

ages 8-12 (grades 3-6)

The educational package addressing homelessness is comprised of three parts: the display panels, the project manual, and the interactive computer program. Exhibited in the participating school, the display panels provide an overview of homelessness for the other students in the school who are not involved in the project. The display panels could alternatively be displayed in the classroom so students may personally interact with the interesting materials which form the panels.

The project manual is the teacher's guide to the project. It briefly introduces and maps the entire program providing helpful activity suggestions, a resource guide to organizations concerned with homelessness, and a bibliography used to create this educational package. The interactive computer software is on a 3.5" disk located in the back cover of the project manual.

The interactive computer program is divided into three sections: facts on homelessness, activities, and resources. The activities section asks the students to participate in scenarios on being homeless, including finding necessary items for shelter and nourishment. The entire class is encouraged to do the discussion questions which follow each activity. After completing the educational package on homelessness, the class will have a more heightened awareness towards the issue and better understanding of the situation than if they had only read about it in a text book.

overall message

- loneliness, hunger, desperation, unfairness, discomfort, uncleanliness
- a hopeful solution

materials

- used items and things associated with shelter and the need for warmth: corrugated cardboard, plastic bags, blankets, coats

proposed activities

- contact a homeless shelter and arrange to volunteer 3-6 hours that week
- organize a canned food, or clothing drive in the neighborhood, school, or youth group
- in a group accompanied by an adult, distribute blankets to homeless people
- come up with your own short term or long range solutions to the problem, learn the correct channels that your process will require, then actually try your solution

DANGEROUS
last Saturday my friend
mr. Santiago was
killed
on my

homeless

Final Application Specifications

In this educational program on homelessness, different design formats create a variety of experiences. Each medium has inherent characteristics which limit the capabilities of full sensory stimulation. Instead of trying to simulate all sensations in all three mediums, each design format concentrates on the sensations capable of that medium in communicating the topic of homelessness.

the display panels

The display panels are designed to be exhibited in the school where this program is implemented (fig. 6). The display panels present a narrative approach on one side, and an informational overview of homelessness on the other.

The panels contain found objects in an attempt to realistically evoke the homeless environment. This unique approach is not suitable for all topics or situations, but in this case it clearly illustrates the significant items associated with living in the streets. Various materials such as asphalt, corrugated cardboard, and newsprint provide a direct connection to those materials experienced by a homeless person. These materials give direct tactile and visual cues.

Fig. 6. **Display Panels**
7 in. x 8 in. (each panel)
found objects
(see Appendix C for documentation)

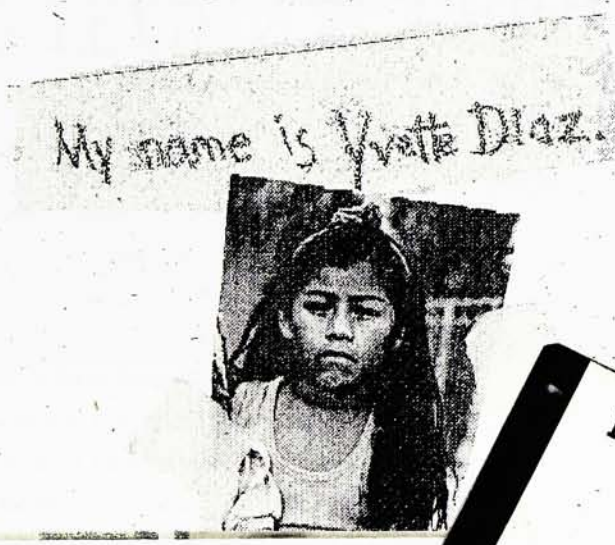


table of contents

introduction	1
getting started	3
list of objects	7
objects and activities	9
project suggestions	23
resource organizations	26
acknowledgements	28
bibliography	29
program disc	31

object: can

physical characteristics
metallic, ridged, cold

sensory stimulation
sight, touch, smell, taste

functional use to homeless
food, recycle

activity overview

Each student will bring in two canned foods, one for the class activity and one for a homeless shelter. No one should have to buy anything that could not be found at home. Students may share food in the activity if necessary.

On a designated day, after the cans have been collected and the labels taken off, have the students choose an unlabeled can of food for their meal. The purpose of this activity is to experience what it must be like to live without conveniences. Heating the food or not is your decision.

Each student should describe this object, and every found object, based on the example above.

the project manual

The project manual is a teacher's reference guide to the entire project (fig. 7). It briefly explains the activities, lists national organizations about homelessness, and offers helpful suggestions about the projects use.

The project manual is a more traditional approach to graphic design because it is printed on paper. In this way it differs from other materials used in the display panels, and can only represent or suggest them. The manual is printed on paper which has low relief textures, torn edges, and visual textures that imitate the condition of the original materials related to homelessness. It is technically possible to have embossed textures, deckled edges, and fragrances in conventional printing, but it is also very expensive. Despite its conventional material, paper, there are some irregular features that can only be executed by hand.

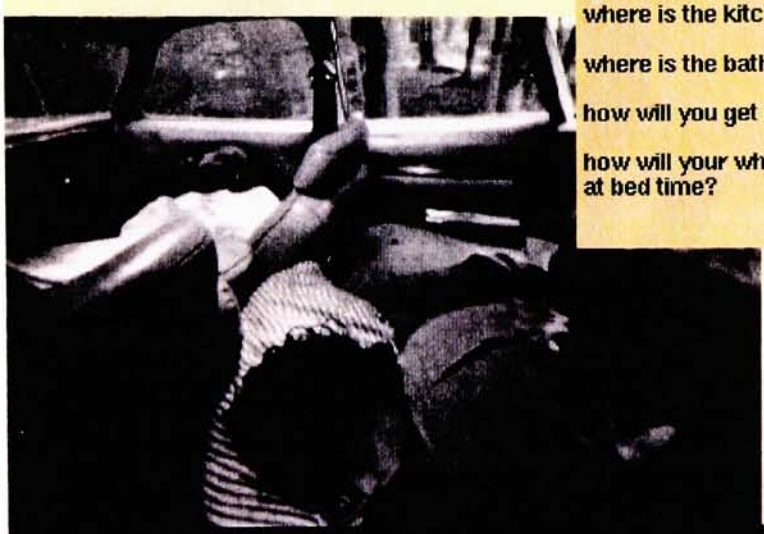
Although the sense of smell is the most direct path to our memory (Ackerman 1992), odors related to the topic of homelessness might cause a negative reaction in the perceiving audience. Therefore, tactile stimulation is the focus of this medium. Because the tactile characteristics are limited to paper, visual depictions of texture are also used to reinforce the physical surface of the original objects.

Fig. 7. **Project Manual Sample**
4.25 in. x 8.5 in.
recycled paper
(see Appendix D for documentation)

activities: scenarios

what if you are living in a car?

- where will you find food?
- where is the kitchen to cook the food?
- where is the bathroom?
- how will you get ready for school?
- how will your whole family fit in the car at bed time?



the interactive computer program

The interactive computer program is the core of the project application providing the students with facts, activities, and resources on homelessness (fig.8).

The electronic medium is distanced from the original objects toward a more abstract interpretation (fig. 4) because it inherently contains no characteristics directly related to the topic. The computer environment must rely completely on simulated cues. Fortunately, recorded sounds enable the computer to seem realistic and lifelike. Various recorded sounds are played in this program when specific buttons are activated or cards open. When this card opens (fig. 8), the sound of a car engine is heard.

The event of typing on the keyboard or clicking the mouse provides tactile stimulation in the interactive computer program. However, these activities are grouped with the functioning of the media format itself, and are far removed from the tactile stimulations related to the topic of homelessness.

Fig. 6. **Interactive Computer Program Sample**
screen 47 of 65
8 in. x 10 in. (each screen)
Aldus Supercard 1.6
(see Appendix E for documentation)

project evaluation

please answer the following questions
(comments are appreciated)

1. the display panels

which features of this piece are most effective in conveying a message?
(**circle one**)

the **found** materials: wood, asphalt, metal . . .

the **hand-written** message side: "my name is Yvette Diaz . . . "

the **typed** informational side: "to be homeless in america: causes, solutions . . .

the **combination** of found materials
and visual/ verbal information

2. the project manual

please check which design elements seem **most appropriate for the topic of homelessness**?

- ☐ recycled paper
- ☐ size of book
- ☐ torn edges
- ☐ textured cover
- ☐ one color (instead of full color)
- ☐ style of type
- ☐ newspaper quality images
- ☐ handwritten sections
- ☐ style of icons and symbols

3. the interactive computer program

this interactive program uses color, scanned images/ textures,
and recorded sounds

do you think the nature of homelessness is communicated well through the use of the computer?

yes **no**

---

4. all three pieces combined

based on the theory that everyone learns differently (through seeing, hearing, touching, etc.) do you agree that combining different mediums in this application is an **effective educational program for children**?

agree 1 2 3 4 disagree 5

additional comments:

The Questionnaire

The first evaluation vehicle for the thesis project was a brief questionnaire in the college gallery where the project was displayed. This meant that participants were the general public with a high concentration of people familiar with the visual arts. There were four questions (fig. 9): one for each of the three mediums and one to evaluate the the effectiveness of the three pieces combined. Approximately 83% (29 out of 35) of the evaluations were completed. In general, positive feedback indicated that the objectives of the project were accomplished.

display panel results

The questionnaire results indicated that a combination of found materials and visual/verbal information on the display panels was most effective in depicting the topic. Specifically, the hand-written side of the display panels was very visually and emotionally powerful . One comment read, "the found objects piece was very dramatic and really got the point across."

project manual results

One objective of the project manual was to focus on the communication value of texture as it relates to the tactile experience. The distribution of results from the project manual question showed an overwhelmingly favorable response to the torn edges. Other design elements that were felt to be appropriate for the topic were the use of recycled paper and, once again, hand-written text.

Fig. 9. **Questionnaire Sample**

interactive computer results

75% of the responses indicated that the condition of homelessness was communicated well through the use of a computer program. The computer format demonstrated how sound can be used in design. Due to gallery restrictions the computer demonstration model was only exhibited the night of the thesis show opening. This limitation forced the questionnaire to refrain from asking specifically about the impact of using sound in this way.

combined media results

The majority of the evaluation responses indicated that combining different mediums in the application would be an effective educational tool. One of the most favorable comments read, "It seems that the more you involve the children's senses in education the more interested the children become. This obviously aides in the learning process." This response highlights one of the main objectives of the project application.

suggestions and improvements

Suggestions for improving the entire project involved simplifying the vocabulary in the computer program and the information side of the display panels. This valid comment was addressed by modifying some of the more complex sentences and terms. If the project were to be implemented in an actual educational environment, editors specifically suited for elementary level students would be consulted.

Intended Audience Evaluation

A second project evaluation involved participants closer to the age level for which the educational project was designed. Ten children at the kindergarten level were available for testing. The discrepancy between the grade levels (3-6) of the proposed audience and the available participants required some minor editing in the computer program. For example, large text blocks were modified to simpler sentences with larger type. The display panels and the project manual remained the same. Most children at this age are capable of reading but their vocabulary is very limited and may often require assistance from the teacher. If this educational program were to be implemented at the kindergarten level, an audible narration accompanying the text in the computer program would be seriously considered.

display panel results

In groups of 3 or 4, the children were asked to look at and touch the display panels. Many were curious and asked, "how did you do this?" Some tried to name each material while others focused on touching the panels. The asphalt panel was most intriguing to the children. One student folded up the panels to its book form, lifted it above his head, and remarked that this was heavier than a normal book. Overall, the children seemed to enjoy the unique qualities of the display panels.

interactive computer program results

The children were then asked to observe the computer program which was set to play continuously. The purpose of the evaluation was mostly to see how children reacted to the sounds throughout the program. Without instruction, all participants attempted to immediately identify each sound as it played. When asked if they enjoyed the computer with these particular sounds they agreed unanimously. To the children, the pictures of the homeless people were "sad" and the colors were "boring." Although it was the intent of the designer to communicate the negativity of the topic, the extent of this goal should be carefully considered in accordance with the audience's maturity level. This observation addressed the challenge of retaining young children's interest in such a dark topic.

Overall, the children responded favorably when asked if they would like to use this program in their classroom. However, when asked to choose between the display panels and the computer program only three out of ten children chose the computer. Possibly, the children were more interested in the display panels because of its unique materials whereas the the computer format is more familiar to them. Maybe tactile stimulation is more significant than visual and auditory stimulation. Further investigation with this age group would allow these speculations to be more conclusive.

project manual results

The teacher of the kindergarten class was asked to evaluate the project manual in addition to the display panels and the computer program. She was very interested in both the project manual's form and content. The torn edges, textured cover, and handwritten sections were especially favored by the teacher. She was also pleased about the objects and their activities remarking that it was "a good idea to suggest multiple uses for things we use everyday."

combined media results

The teacher strongly agreed that the entire educational program would be "helpful in teaching [her] students about different aspects of our world . . . some being . . . not so wonderful, [for instance], homelessness."

future considerations

At the beginning of the application stage it was assumed that the audience would be literate. However, after testing this educational program on children who are just learning to read, maybe the most suitable audience for multi-sensory design is in fact one deficient in reading skills. To an audience that can read, auditory and tactile stimulations may be only supplemental to the text. An audience that cannot read must rely on their other senses to process information. Multi-sensory design has a potential to communicate a message regardless of the audience's knowledge of the written word.

Due to the nature and limitations of different mediums and a particular subject matter, it may be inappropriate, if not impossible to directly stimulate all of the senses all of the time. There are also thresholds of sensory overload which may cause confusion in the participant when all the senses are directly stimulated at once. The designer must clearly define the desired extent of direct and indirect sensory cues when choosing media formats for particular concepts and messages. A pragmatic consideration for the designer and client pertains to budget. Unfortunately, the sensory analysis approach is potentially expensive for mass production. Economic reasons may be a large part of why our modern communication media is dominated by visual and auditory stimuli.

The experiential design approach provides an alternative to the conventional design process. By incorporating the sensory analysis approach in the ideation process, the designer will have a wider range of experiential information to use in an application than strictly visual imagery. If a design appropriately stimulates multiple senses, it will be more significant and contextually related to the intent of the communicated message.

Ackerman, Diane, 1990
Natural History of the Senses
New York: Vintage Books

Fiske, Donald W. and Salvatore R. Maddi, 1961
Functions of Varied Experience
Homewood, Illinois: Dorsey Press

Goodin, Robert E., 1985
Protecting the Vulnerable: A Reanalysis of Our Social Responsibilities
Chicago: University of Chicago

Hume, David, 1896
A Treatise of Human Nature
Oxford: Clarendon Press

Ackerman, Diane
Natural History of the Senses
New York: Vintage Books,1990

Aldrich, Charles Robert
The Primitive Mind and Modern Civilization
New York: AMS, 1969

Arnheim, Rudolf
Art and Visual Perception: A Psychology of the Creative Eye
Berkeley: University of CA Press, 1965

Arnheim, Rudolf
Toward a Psychology of Art
Berkley: University of CA Press, 1972

Borges, J.L.
"Parable of the Palace," A Personal Anthology
New York: Grove Press, Inc., 1967
Carr, Donald E.
The Forgotten Senses
Garden City, NY: Doubleday and Co., Inc., 1972

Cronbach, Lee J.
Designing Evaluations of Educational and Social Programs
San Francisco: Jossey-Bass, 1982

Csaky, Mick
How Does It Feel?: Exploring the World of Your Senses
New York: Harmony Books, 1979

Dondis, Donis A.
A Primer of Visual Literacy
Cambridge, MA: MIT Press, 1973

Drever, James
A Dictionary of Psychology
Baltimore: Penguin Books, 1960

Ehrenzwweig, Anton
The Hidden Order of Art: the Study into the Psychology of Artistic Imagination
Berkley: University of CA Press, 1967

Fiske, Donald W. and Salvatore R. Maddi
Functions of Varied Experience
Homewood, Illinois: Dorsey Press, 1961

Fiske, John
Introduction to Communication Studies
Routledge Publishing

Friedrich Carl J.
Responsibility
New York: Liberal Arts, 1960

Funk and Wagnalls
Standard College Dictionary
Pleasantville, NY: Reader's Digest Assoc., 1967

Gleik, James
"Solving the Mathematical Riddle of Chaos"
New York Times Magazine, June 10,1984: 31-49

Goodin, Robert E.
Protecting the Vulnerable: A Reanalysis of Our Social Responsibilities
Chicago: University of Chicago, 1985

Hall, Edward
Silent Language
New York: Anchor Books, 1990

Halprin, Lawrence
The RSVP Cycles; creative processes in the human environment
New York: G. Braziller, 1989

Hatcher, Evelyn Payne
Visual Metaphors: A Methodological Study in Visual Communication
Albuquerque: University of NM Press, 1974

Hiebert, Kenneth J.
Graphic Design Processes: Universal to Unique
New York: Van Nostrand Reinhold, 1992

Hobbs, Jack A.
Art in Context, third edition
San Diego: Harcourt Brace Janovich, 1975

Hume, David
A Treatise of Human Nature
Oxford: Clarendon Press, 1896

Klein, Larry
Exhibits: Planning and design
New York: Madison Square Press:
Robert Silver Assoc, 1988

Mappes, Thomas A., and Jane S. Zembaty
Social Ethics: Morality and Social Policy, Third Edition
New York: McGraw-Hill, 1977

Marks, Lawrence E.
The Unity of the Senses: the Interrelations Among the Modalities
New York:Academic Press, 1978

Nevin, John A.
The Study of Behavior: Learning, Motivation, Emotion, and Instinct
Glenview, Illinois: Scott Foresman and Co., 1973

Oeri, Georgine
Man and His Images, A Way of Seeing
New York: Viking Press, 1968

Oliver, Paul
"Values, Symbols, and Meanings," Dwellings
Oxford: Oxford University Press

Papaneck, Victor
"Sensing a Dwelling"
Resurgence (152: 15-17)

Pick, Herbert I., Jr., and Elliot Saltzman
Modes of Perceiving and Processing Information
Hillsdale, NJ: Lawrence Erlbaum Associates, 1978

Pfeiffer, John
The Creative Explosion
New York: Harper and Row, 1982

Pliner, Patricia, Lester Krames, and Thomas Alloway
Communication and Affect
New York: Academic Press, 1973

Plummer, Charles M., Ph.D.
"Project Design and Evaluation Planning"
Rochester Institute of Technology,
Rochester, NY, 1992

Ross, Stephen D.
The Nature of Moral Responsibility
Detroit: Wayne State University, 1973

Screven, C.G.
"Evaluation and the Exhibit Design Process: Pretesting Audiences as a Design Tool"

Warren, Jefferson T.
Exhibit Methods
New York: Sterling, 1972

Wood, David
"Communication and Cognition"
JESP Wax Article No.5

Zakia, Richard D.
Perceptual Quotes for Photographers
Rochester: Light Impressions, 1980

Initial Thesis Proposal Statement

Thesis: Initial Proposal Statement
Primitive Perception:
An Exploration in Multi-Sensory Design
and Symbolic Organizational Methods

Laurel Sisson
9/9/92

Areas of Investigation:

Primitive Senses

It is a misconception that our primitive ancestors had different powers of sensory perception than ours. "Each perceives better those objects which are important to him in the conduct of life, and to which he is in the habit of paying attention, than he does objects which are meaningless to him." In our visually oriented culture we should learn from our predecessors the value of multi-sensory stimuli and their impact on perception.

Primitive Symbols

The power of the symbol was much greater in primitive cultures than it is in ours. The primitive symbol "acted as a focus for the interest of both consciousness and the unconscious." Unlike our modern symbols that are merely signs, the primitive symbol struck an inner psychical chord. Today, rather than using the symbol in its conventional sign/meaning relationship the symbol should be used in a more indirect manner and communicate to our unconscious. If the structures of ancient symbols were used as organizational methods for the graphic designer, how would this affect the veiwer's perception of the design and its meaning?

Problem Statement

By investigating primitive perception,the powers of the senses and symbols in primitive man, the designer will have valuable insight in multi-sensory design and symbolic organizational methods to apply in modern design.

Situation Analysis

In our highly technological society we have forgetten our primitive values. We no longer utilize our senses and symbols to the degree that our predecessors used theirs. Modern perception is visually dominant, overlooking our other conscious senses (tactile, auditory, olfactory, and taste) and ignoring our unconscious. In primitive cultures, the symbol aroused the unconscious unlike our symbols today that function merely as signs. As the designer becomes more aware of primitive perception valuing consciousness as well as the unconscious, she will be have more meaningful design variables and references.

Application

An information guide using multi-sensory design and symbolic organizational methods. The guide will focus on world-wide environmental and social issues. The target audience has not yet been determined. Possible audiencesmay be: primary school children, high school students, or community-wide organizations.

Final Thesis Proposal

Thesis Project Component Plan

Experiential Design

College of Imaging Arts and Sciences

Rochester Institute of Technology

Laurel Sisson

Rochester, New York

November, 1992

Project Title

Experiential Design

Designer/Address

Laurel Sisson
137 Colony Manor Drive
Rochester, NY 14623

Situation Analysis/ Documentation of Need

The products of our visually oriented culture often neglect our non-visual senses and deny us a complete perceptual experience. Although some media is now more interactive with the senses, vision continues to be the dominant sense in contemporary communication. In the design process, these physiological and psychological components relating to sensation and perception are often either addressed improperly or completely overlooked.

Problem Statement and Description

Based on the research and synthesis of various psychological and design theories and processes, I will establish an experiential design theory.Through a range of interactive design formats I will implement the experiential design theory and justify the need for an awareness of experiential design.The results of this research and experimentation will be evaluated according to appropriateness in different graphicdesign media.

Mission Statement

The design prototypes will be constructed, tested, and evaluated according to the experiential design theory.

Organizational Framework

Goals

Objectives

- Processes and Strategies

Theory

Establish an experiential design theory

Research experiential psychology theories and design processes

- Research the theories of psychology relating to experience and behavior
- Research communication theories and semantic differential
- Diagram the design process

Construct a new theory based on the research

- Construct a matrix combining psychological and communication design theories
- Establish a new theory from the matrix

Content

Establish a theoretical basis for effective design applications

Gather information pertaining to psychology and design

- Collect any information relating to behavioral psychology, sensation, perception, communication theories, and the design process

Develop a different approach to design

- Suggest any conceptual changes or additional areas that should be explored in the field of design

Audience

Educate and present a useful theory to designers

Address professional designers and educators so that they are aware of the importance of the experience factor in design

- Choose specific areas in design to target (student to prpfessional)
- Analyze the factors in each area of design

Target the theory to specific groups in design and analyze their relevance and appropriateness of the theory in the evaluation

- Project how the theory will impact each group of designers
- Project the designer's future without the theory

Application

Apply the relating psychological theories to forms of design

Utilize the experiential design theory in different levels of design

- Implement the theory in two-dimensional, three-dimensional, and multi-media electronic designs

Conduct an experiment allowing designers and non-designers to experience the design prototypes

- Choose subjects who will experience the designs in a controlled situation (planned experiment) and an uncontrolled situation (thesis show)
- Display the data from the controlled experiment
- Display matrixes relating the theories

Technology

Analyze how different technologies affect experience

Apply the theory using conventional printing materials (two-dimensional and three-dimensional)

- •Collect conventional and non-conventional printing material

Apply the theory using unconventional materials

- •Collect other sensory stimulants (aromas, music, etc., . . .)

Apply the theory to an electronic medium

- •Explore modern forms of design: interactive media programs

Design

Generate experimental designs relating to the experiential theory while maintaining design integrity

Experiment with design methods and materials

- •Research the experience component in design history from a range of disciplines (graphic, industrial, interior, exhibit)

Maintain the integrity of the design while integrating new findings

- •address formal design elements: syntax, semantics, pragmatics

Project the impact of this theory on design

- •Briefly project the future of design, and social implications

Evaluation

Measure the appropriateness of the experiential design theory and its effectiveness when applied to specific forms of design

Evaluate the existing theories in psychology and design

- •select the most applicable "experiential" theories

Evaluate the prototypes according to the new theory and their effectiveness as designs

- •Establish suitable criteria and measurement procedures
- •Organize results from experiment
- •Interpret the results relate the results to the theory
- •Conclude the usefulness and appropriateness of the theory
- •Use discrepancy information to revise and improve program

Estimated Expenses

Experimental and Application Materials

computer disks	$140
conventional printing materials	$20
unconventional materials	$20
miscellaneous	$20

Thesis book

laser paper	$10
book covers (3)	$20

Experimental Constraints

Ideally, a wide range of prototypes and materials should be explored. Unfortunately, time, resource, and monetary limitations will only permit a selected number of models to be constructed and tested.

Dissemination

The final documentation of the thesis will be organized so that it will serve as an experimental reference for students and faculty at RIT. Conceptually, the information and resulting application are intended for graphic designers; however, the book is not intended to be published or printed elsewhere at this time.

Time Implementation Plan
(see attached flow chart)

RIT Fall Quarter, September 2- November 16, 1992

Proposal Stage

- Weekly meetings with Roger Remington and Deborah Beardlee
- Write formal proposal
- Contact thesis committee members
- Arrange tentative committee meeting dates
- Collect basic information for proposal

RIT Winter Quarter, December 1-February 26, 1993

Research Stage

Full Committee Meeting: Week 1

- Weekly meetings with chief advisor
- Bi-weekly meetings with advisors, Pam Blum and Richard Zakia
- Research experiential theories in psychology
- Interview specialists and professors in psychology
- Research communication theories in design
- Develop matrixes relating psychology and design concepts
- Establish theory
- Collect conventional and non-conventional printing materials
- Contact places experimenting with sensory material

Application Stage

Full Committee Meeting: Week 5

- Weekly meetings with chief advisor
- Bi-weekly meetings with advisors, Pam Blum and Richard Zakia
- Costruct the prototypes for experiment
- Briefly evaluate results and decide if more data is needed

RIT Spring Quarter, March 9-May 21, 1993

Experimental Stage

Full Committee Meeting: Week 1

- Weekly meetings with chief advisor
- Bi-weekly meetings with advisors, Pam Blum and Richard Zakia
- Define experimental format and predictions
- Select subjects for experiment
- Conduct experiment
- Briefly evaluate results and decide if more data is needed
- Conduct second experiment (if needed)
- Consider additional or alternative data collecting

Evaluation Stage

Committee meeting: Week 6

- Evaluate theory in retrospect
- Evaluate experiment
- Conclude results in thesis book
- Project and suggest future ideas
- Committee evaluation of project

Thesis Show April 26- May 13, 1993

Committee Meeting: Week 10

- Edit thesis book
- Book signing

RIT Graduation, May 22, 1993

Bibliography

Ackerman, Diane
Natural History of the Senses
New York: Vintage Books,1990

Aldrich, Charles Robert,
The Primitive Mind and Modern Civilization
New York: AMS, 1969

Arnheim, Rudolf
Art and Visual Perception: A Psychology of the Creative Eye
Berkeley: University of CA Press, 1965.

Arnheim, Rudolf
Toward a Psychology of Art
Berkley: University of CA Press, 1972

Borges, J.L.
"Parable of the Palace," *A Personal Anthology*
New York: Grove Press, Inc., 1967

Carr, Donald E.
The Forgotten Senses
Garden City, NY: Doubleday and Co., Inc., 1972

Csaky, Mick
How Does It Feel?: Exploring the World of Your Senses
New York: Harmony Books, 1979

Dondis, Donis A.
A Primer of Visual Literacy
Cambridge, MA: MIT Press, 1973

Drever, James
A Dictionary of Psychology
Baltimore: Penguin Books, 1960

Ehrenzwweig, Anton
The Hidden Order of Art: the Study into the Psychology of Artistic Imagination
Berkley: University of CA Press, 1967

Fiske, Donald W. and Salvatore R. Maddi
Functions of Varied Experience
Homewood, Illinois: Dorsey Press, 1961

Fiske, John
Introduction to Communication Studies
Routledge Publishing

Bibliography
(continued)

Funk and Wagnalls
Standard College Dictionary
Pleasantville, NY: Reader's Digest Assoc., 1967

Gleik, James
"Solving the Mathematical Riddle of Chaos"
New York Times Magazine, June 10,1984: 31-49

Hall Edward
Silent Language
New York: Anchor Books, 1990

Halprin, Lawrence
The RSVP Cycles; creative processes in the human environmenrt
New York: G. Braziller, 1989

Hatcher, Evelyn Payne
Visual Metaphors: A Methodological Study in Visual Communication
Albuquerque: University of NM Press, 1974

Hiebert, Kenneth J.
Graphic Design Processes: Universal to Unique
New York: Van Nostrand Reinhold, 1992

Hobbs, Jack A.
Art in Context, third edition
San Diego: Harcourt Brace Janovich, 1975

Klein, Larry
Exhibits: Planning and design
New York: Madison Square Press: Robert Silver Assoc, 1988

Marks, Lawrence E.
The Unity of the Senses: the Interrelations Among the Modalities
New York:Academic Press, 1978

Nevin, John A.
The Study of Behavior: Learning, Motivation, Emotion, and Instinct
Glenview, Illinois: Scott Foresman and Co., 1973

Oeri, Georgine
Man and His Images, A Way of Seeing
New York: VikingPress, 1968

Oliver, Paul
"Values, Symbols, and Meanings," *Dwellings*
Oxford: Oxford University Press

Bibliography
(continued)

Papanek, Victor
"Sensing a Dwelling"
Resurgence (152: 15-17)

Pick, Herbert l., jr., and Elliot Saltzman
Modes of Perceiving and Processing Information
Hillsdale, NJ: Lawrence Erlbaum Associates, 1978

Pfeiffer, John
The Creative Explosion
New York: Harper and Row, 1982

Pliner, Patricia, Lester Krames, and Thomas Alloway
Communication and Affect
New York: Academic Press, 1973

Plummer, Charles M., Ph.D.
"Project Design and Evaluation Planning"
Rochester Institute of Technology, Rochester, NY, 1992

Screven, C.G.
"Evaluation and the Exhibit Design Process: Pretesting Audiences as a Design Tool"

Warren, Jefferson T.
Exhibit Methods
New York: Sterling, 1972

Wood, David
"Communication and Cognition"
JESP Wax Article No.5

Zakia, Richard D.
Perceptual Quotes for Photographers
Rochester: Light Impressions, 1980

Glossary

term

definition

- supplemental information

abstract

pertaining to art consisting of patterns or shapes not necessarily resembling anything in the real or imaginary world; of any art in which subject matter and images are either entirely absent or deemphasized (Hobbs, 330)

adaptation

the decrement in responding with repeated stimulus presentations (Nevin, 35)

- the activity of the perceptual systems, as well as their structure and organization, is adapted to pick up environmental information useful to the animal (Warren/Carterette, 13)
- response diminishes with repeated stimulus presentations (Nevin, 36)
- the process of satiation or adaptation appears to be a characteristic effect of the presentationof most appetitive or reinforced stimuli, and perhaps also of some stimuli regarded as neutral (Nevin, 36)

aesthetic value

unity in variety --Hutcheson (Stiny/Carterette,146)

- this canon is intuitively appealing, but lacks the precision needed for rigorous application or testing; measuring unity is often problematical (Stiny/Carterette, 146)

assimilation effect

a pattern of small units of one color superimposed over a different background color that causes the color underneath to shift its value and hue somewhat toward that of the pattern (Hobbs, 331)

associationism

ways in which successively experienced sensations or ideas could result in the formation of a bond uniting them, so that one sufficed to evoke another (Nevin, 8)

- associationists suchas James Mill (1773-1836) were concerned with relations that were less likely to be unifrom across individuals, but arose through chance conjunction of experiences (Nevin, 8)
- such associations were said to depene on factors such as frequency, recency, temporal proximity, and vividness of the component sensations and ideas'clearly, they were not to be regarded as inborn or independent of experience, as in the case of reflexes (Nevin, 8)

Glossary
(continued)

Associationism-Empiricism Theory
assumes all conscious experience to consist of sensations, memory images of sensation, and the arbitrary linkages between them that have been forged by the individual's mind in the course of its encounters with the structure of the world (Hochberg/Carterette, 229)

- Gestalt theory rejected these mechanistic and atomistic premises, expalining that what we perceive reflects the characteristics of underlying brain fields (Hochberg/Carterette, 229)

balance
a perception that opposing parts - right and left, top and bottom, foreground and background- of an artwork are in balance, that the various visual weights and psychological weights have been equalized (Hobbs, 331)

classical conditioning
conditioning that does not involve any dependency between a response and a consequent stimulus, instead, it involves a dependency between a prior stimulus and an eliciting stimulus (Nevin, 72)

closure
the tendency to perceive an incomplete shape as complete (Hobbs, 330)

cognition
a general term covering all the various modes of knowing: perceiving, remembering, imagining, conceiving, judging, reasoning (Drever, 41)

- preferences among possible perceptual inputs are predictable from characteristics of ongoing information processing

collective unconscious
term employed by analysts for those elements in the individual's unconscious *derived from the experiences of the race; employed to a considerable extent by* Jung (Drever, 41)

color
technically a sensation in the retina of the eye resulting from light waves of varying lengths, but normally a perceived quality of an object (Hobbs, 332)

color constancy
the tendency to perceive the color of an object as unchanging regardless of variations in the amount of light falling on the object (Hobbs, 333)

Glossary
(continued)

communication

the transmission or exchange of ideas, information, etc.; a line of connection; a channel (Funk and Wagnalls, 274)

- the nonverbal system is specialized for representing and processing environmental information, whereas the verbal system is by definition specialized for communication (Paivio/Pick,40)
- the communicative function of the verbal system cannot go on in isolation but depends, instead, on communication between the verbal and the image-generating system, since it presumably contains much of the semantic information about which we communicate (Paivio/Pick,40)

consciousness

a character belonging to certain processes or events in the living organism, which must be regraded as unique, and therefore as indefinable in terms of anything else, but which can perhaps be best described as a view of these processes and events, as it were, from the inside; the individual is, as it were, inside what is happening (Drever, 48)

continuity

a single feature or a series of features that extends throughout a large part of a composition; an aid to unity (Hobbs, 333)

contrast

the use of opposite effects in close proximity
(Funk and Wagnalls, 294)

deprivation

the operation of withholding stimuli (Nevin, 36)

design process

the designer's methodological stages such as: research, ideation, application, and evaluation

design as communication

- it is the designer's task to communicate perceptions of life through the media of physical form, to provide the shell in which human activities will exist, to design the physical features of space that provide for human perception, and to provide the features that allow for cognitive, affective, and symbolic inferences (Hooper/Carterette, 178)

drive

inferred states of the organism that tend to draw attention away from the critical events that occurred in the organism's past (Nevin, 36)

echolocation

facial vision of the blind (Kennedy/Carterette, 100)

- the eye substitutes for the ear in lipreading, and the ear reciprocates in echolocation, a skill that is a poor exchange for vision (Kennedy/Carterette, 100)

Glossary
(continued)

environment
the aggregate of external circumstances, conditions, and things that affect the exestence and development of an individual, organism, or group (Funk and Wagnalls, 443)

environmental art
an artwork that surrounds the viewer on all, or nearly all, sides (Hobbs, 334)

environmental perception
•the perceptual systems are, by necessity, well adapted to pick up useful information about the environment (Warren/Carterette, 15)

epigenesis
the feature of the perceptual systems requiring that they must be flexible and adaptable to the changing demands of the environment and the changing needs of the animal (Warren/Carterette, 14)
•this epigenisis of a perceptual system is marked by increasing selectivity, specificity, and economy of information pickup (Warren/Carterette, 14)

experience
actual participation in or direct contact with something; knowledge or skill derived from actual participationor kirect contact rather thatn from mere study, interest, etc.; the period of time during whic one has been directly occupiecd in something; the totality of one's judgements or reactions with regard to something directly met with or engaged in (Funk and Wagnalls, 468)

figure/ ground
in perception, the tendency to divide a visual pattern into two kinds of shapes with figure(s) appearing to be on top of and surrounded by the ground (Hobbs, 335)

form and function
•the relationship between the form and the function of architecture is one that has been the subject of ongoing debate in architectural circles since Sullivan stated that form followed function. Moholy-Nagy asserts, for example, that
In all fields of creation, workers are striving today to find purely functional solutions of a technical-biological kind; that is, to build up each piece of work solely from the elements which are required for its function [Moholy-Nagy, 1946, p. 61]. Hooper/Carterette, 166)

grouping
bringing unity to an artwork by clustering things in groups (Hobbs, 336)

habituation
the waning of a response tendency under repeated stimulation (Nevin,379)

Glossary
(continued)

imprinting

the phenomenon in which a stimulus acquires its significance for an organism simply by virtue of its presentation at a particular period in the organism's lifetime (Nevin, 37)

Jung, Carl Gustav, 1875-1961

Swiss psychologist, psychiatrist and author who developed theories such as the collective unconscious

kinesthetic sense

awareness of one's own body movements (Hobbs, 338)

Law of Effect

Behavior can be strengthened by some consequences and weakened by others --Thorndike,1898 (Nevin, 38)

learning set

the way in which relationships among stimulus properties may come to control responding independently of the specific stimuli that are involved (Nevin, 61)

memory

that characteristic of living organisms, in virtue of which what they experience leaves behind effects which modify future experience and behaviorism in virtue of which they have a history and that history is recorded in themselves; that characteristic which underlies all learning, the essential feature of which is retention (Drever, 165)

- long-term memory and perception use the same systems and are continuous
- the functional representations of the nonverbal system (as expressed in drawings, imagery, and so on), are analogous and continuous in nature, and are haighly isomorphic with perceptual information (Paivio/Pick, 42)
- environmental infromation is represented in long-term memory basically in a perceptual form (Pick,42)

motivation

the phenomena involved in the operation of incentives or drives (Drever, 174)

- stimuli may be made more or less reinforcing, or more or less aversive, depending on such factors as the time elapsed since their last presentation (Nevin, 37)

movement (by viewer)

- simply by moving about, the organism changes the portion of the environment with which it comes in contact; as the organism moves, the things it sees and touches change --*Held and Hein experiment, 1963* (Nevin, 47)

Glossary
(continued)

perception

the process of becoming immediately aware of something; usually employed of sense perception, when the thing of which we become immediately aware is the object affecting a sense organ; when that object is recognized or identified in any way perception passes into apperception (Drever, 201)

- an active process, in the natural environment, of information seeking and not simply a passive registration of energy (Warren/Carterette, 16)
- the environment enables but does not force perception; the presence of a physical basis for a perceivable is not a sufficient condition for perception (Warren/Carterette, 13)

pictorial convention

a customary manner of representing people or objects in an artwork (Hobbs, 341)

reinforcement

the operation of presenting a reinforcer when a response occurs (Nevin, 40)

- this operation is performed on responses, and we therefore speak of reinforced responses, not organisms (Nevin, 40)
- the term reinforcement has also often been applied to the process that follows upon the reinforcement operation, namely, the increase in the frequency of the response (Nevin,40)

reinforcer

the stimulus in the reinforcement operation (Nevin, 40)

response

that portion of all activities of the organism which is selected by the experimenter to be measured and related to the stimulus (Nevin, 6)

- stimuli and responses can be defined operationally without reference to one another, but it is the way in which responses depend on stimuli, the relation between behavior and environment, that is of central interest (Nevin, 6)

rhythm

a repetition of similar elements or features (Hobbs, 342)

selection

- survival requires the ability to select perceivables on the basis of their importance, but how the environment conditions a perceptual system to pick up, for expample, affordances is not yet known; how a perceptual ability develops within an individual, and once developed, how that ability may be selectively utilized, is also not known (Warren/Carterette, 14)

Glossary
(continued)

selective synthesis
the selection manifested in a connected train of thought, involving, as it does, the rejection of irrelevant associations, where,apart from the operation of a selective agency - the aim or goal - such associations might as readily determine the ideas in the mind as those whidh determine the apperance of the relevant ideas (Drever, 257)

semantics
the scientific study, and detailed or critical investigation, or the evolution of the meanings of words; the science of meaning (Drever, 259)

semiotics
the study of signs and symbols

sensation
the ultimate and irreducible aspect or element of sense perception, dependent upon the stimulus affecting a sense receptor; really an abstraction, but generally discussed, especially in physiology an psychophysics, as if it were an elementary experience; the process of sensing (Drever, 259-60)

sensitization
an increase in elicited responding with successive stimulus presentations (Nevin, 36)

- the likelihood with which a particular stimulus produces a specified response depends not only on what the stimulus is, but also the organism's prior exposure to that stimulus (Nevin, 36)
- repeated presentations of a stimulus modify the degree to which that stimulus produces responses (Nevin, 36)

sensory compensation

- because of the lack of vision, the blind obtain more practice in the use of the remaining modalities, depend on them more, and therefore develop better nonvisual perceptual abilities (Warren/Carterette, 84)

sensory process
the process, or processes, as a whole, underlying sensation; theprocess, or processes, in the receptor (Drever,262)

sensory reinforcement
the phenomenon that illustrates the importance of sensory stimuli that were once considered neutral, but temporarily effective as a weak reinforcer (Nevin, 47)

stimulus *that portion of the physical environment which is selected by an experimenter to be presented or whithheld, or otherwise varied systematically, in order to ascertain its effects on behavior* (Nevin, 6)

Glossary
(continued)

syntax
relating to the formal aspects of design: line, shape, color, texture, position

synthesis
the assembling of separate or subordinate parts into a whole: opposed to analysis (Funk and Wagnalls, 1360)

tactile stimulation and motion
•motion, including apparent motion, across the skin can improve recognition, and often results in an impression of an object somewhat detached from the skin (Kennedy/Carterette, 101)

translation
•the translation of conceptual representations into concrete forms is one of the main tasks of designers. Important mechanisms in this translation are the graphic media such as section, schematic drawings, and elevations. These allow designers to move beyond many human memory-processing limitations to consider effectively alternative design possibilities. (Hooper/Carterette, 180)

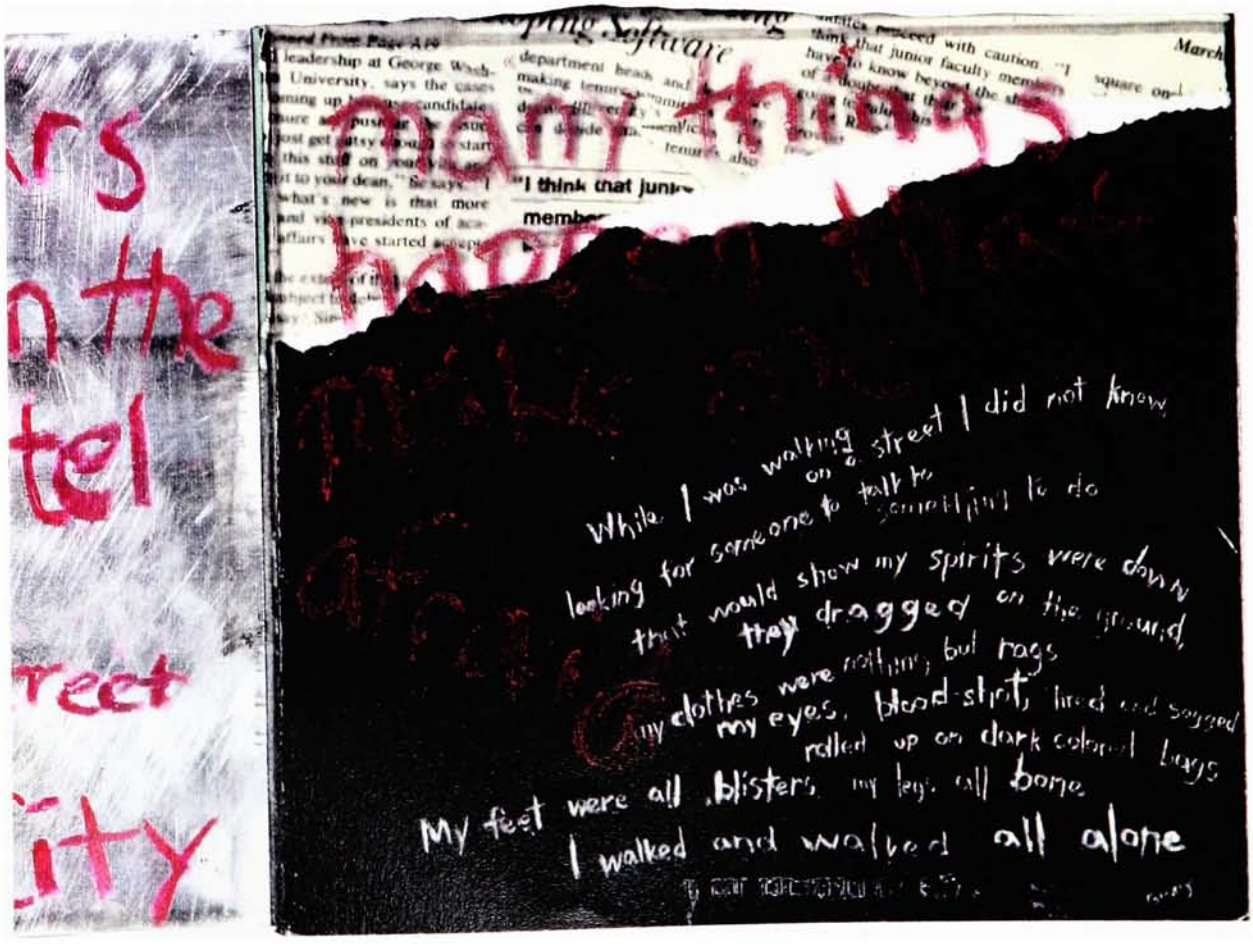
unconsciousness
not having the characteristic of consciousness; the aggregate of the dynamic elements constituting the personality, of some of which the individual may be aware as part of his make-up, of others entirely unaware, but all structural, rather than process; on process side, the inner mental dynamic, involvingprocesses which are of a different order from conscious processe, and as such are incapable of becoming conscious processes, through influencing, and modifying these in all sorts of ways, and , to avoid confusion, better spoken of as endopsychic processes (Drever, 301)
•often wrongly applied to processes of the same order as conscious processes but outside the field of personal awareness, which are more appropriately termed subconscious or extraconscious (Drever, 301)

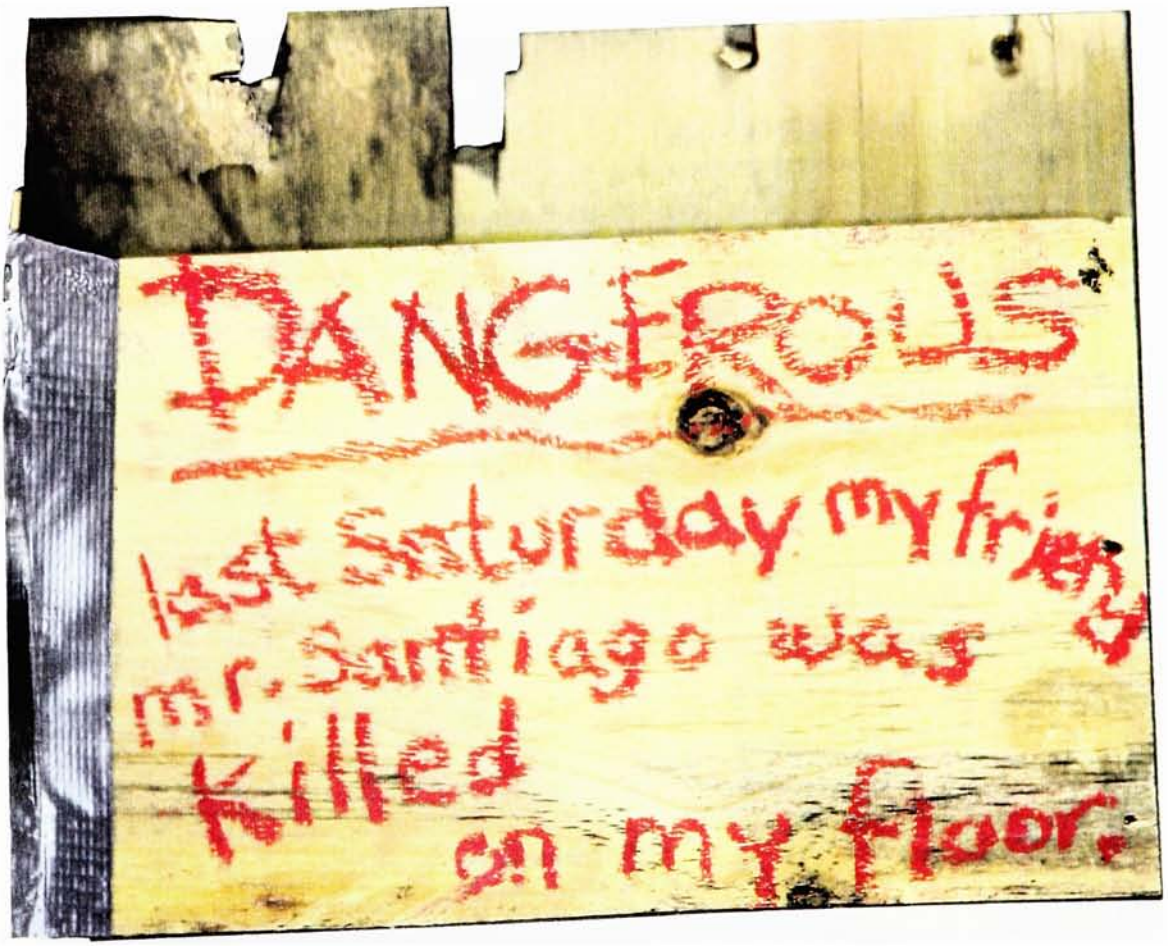
unity
the harmonious agreement of parts or elements into one united whole (Funk and Wagnalls, 1465)

varied experience
variation in stimulation creating arousing and meaningful effects (Flske and Maddi, 14)

Display Panel Documentation

name is
Yvette Diaz
FRAG
HANDLE
236550


I think that junio
While I was walking
looking for someone to talk to
that would show my spirits were down
they dragged on the ground
my clothes were nothing but rags
my eyes, blood-shot, lined and sagged
rolled up on dark colored bags
My feet were all blisters my legs all bone
I walked and walked all alone


DANGEROUS
last saturday my friend
mr. Santiago was
killed
on my floor.

be

homeless

in america

Homelessness continues to be an American problem which is severely neglected at both the local and national levels. To most, it is natural to ignore things that are unpleasant and avoid complex situations. It is partly for this reason that the number of homeless people in the United States continues continue to grow. The average person does not even think about the situation until he is perhaps confronted by a homeless person on the streets or views a report on the evening news. Even so, the problem seems separate and far removed from the "average" person's life. Surprisingly, the majority of homeless people today were once "average" citizens also.

The profile of homelessness has come a long way from the stereotypical hobo associated with the 1930's. Today, the homeless population is comprised of increasing numbers of women and children, and highly educated adults with degrees and sometimes even jobs.

BAGG

community and national solutions

Long-term solutions should occur on the community and national levels. Along with temporary accommodations such as emergency shelters, coordinating officials should consider the following long-term solutions:

permanent affordable housing, job training with placement, health care and community-based mental health care along with group homes for those who need it, ample nutritional programs, homes for runaways that cannot return home, transportation, and supportive social service programs that are flexible, well-coordinated, and properly funded. (Gordon 1998, 161)

local, and national

respond to this

reach a solution.

can

ference and

eless.

Project Manual Documentation

homeless.

list of objects

can

blanket

shoe

cardboard

plastic bag

newspaper

crate

object: cardboard

physical characteristics
flat, brown, structural

sensory stimulation
sight, touch, smell, hearing

functional use to homeless
shelter

activity overview

Students should be able to find a box large enough for them to fit inside. During a simulation, this may act as their shelter. The description of the box should include what it is like to be inside the box, physically and emotionally.

object: plastic bag

physical characteristics
black, plastic, wrinkled

sensory stimulation
sight, touch, hearing

functional use to homeless
carry items, protection

activity overview

The plastic garbage bag will be used to collect recyclables, aluminum cans, plastics, or paper. The money from the recycled items will be donated to your local shelter. The bag could also be used in constructing a shelter.

Interactive Computer Program Documentation

to be
homeless
in
america

interactive program

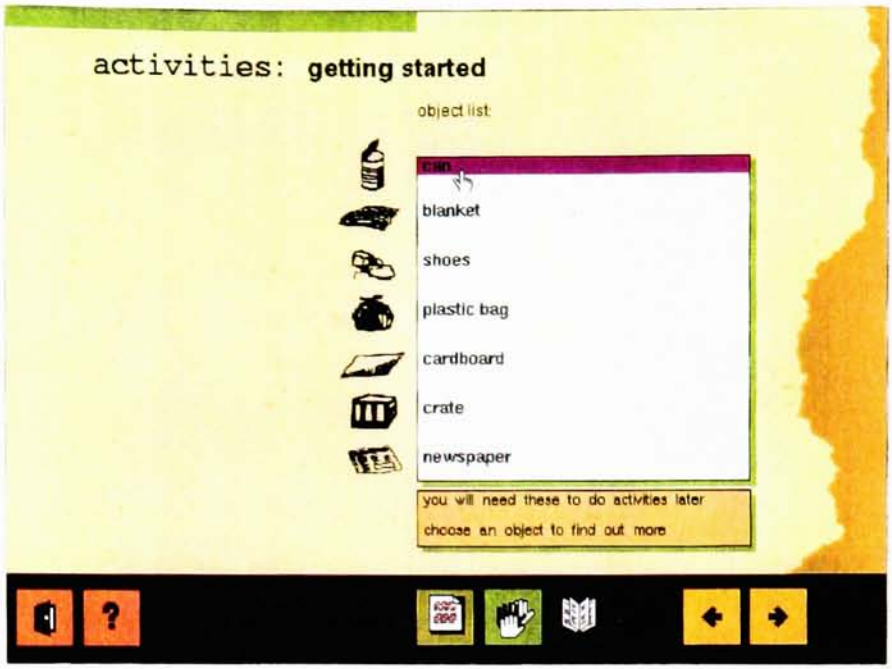
by
laurel sisson

interaction
educational series

exit help facts activities resources previous next

facts: today

many
homeless
are
women
and
children


activities: getting started
object list:
can
blanket
shoes
plastic bag
cardboard
crate
newspaper
you will need these to do activities later
choose an object to find out more

activities: discussion questions
what are some causes of homelessness?
what type of people are homeless today compared to those during the Great Depression?
why is homelessness such an increasing problem today?
why should I help someone I don't even know?
what are some long term solutions for homelessness?

Displayed Objects and Project Application

ortality up, trend

DANGEROUS

Evaluation Examples

project evaluation

please answer the following questions
(comments are appreciated)

1. the display panels

which features of this piece are most effective in conveying a message? (**circle one**)

the **found** materials: wood, asphalt, metal . . .

the **hand-written** message side: "my name is Yvette Diaz . . "

the **typed** informational side: "to be homeless in america: causes, solutions . . .

the **combination** of found materials and visual/ verbal information

2. the project manual

please check which design elements seem **most appropriate for the topic of homelessness**?

- ☐ recycled paper
- ☐ size of book
- ☑ torn edges
- ☐ textured cover
- ☑ one color (instead of full color)
- ☐ style of type
- ☐ newspaper quality images
- ☑ handwritten sections
- ☐ style of icons and symbols

3. the interactive computer program

this interactive program uses color, scanned images/ textures, and recorded sounds

do you think the nature of homelessness is communicated well through the use of the computer?

yes **no**

---

4. all three pieces combined

based on the theory that everyone learns differently (through seeing, hearing, touching, etc.) do you agree that combining different mediums in this application is an **effective educational program for children**?

agree 1 — 2 — 3 — 4 — disagree 5

additional comments:

Projects the experiential learning process thru use of multiple mediums. Excellent integration for effect

project evaluation

please answer the following questions
(comments are appreciated)

1. the display panels

which features of this piece are most effective in conveying a message?
(**circle one**)

the **found** materials: wood, asphalt, metal . . .

the **hand-written** message side: "my name is Yvette Diaz . . . "

the **typed** informational side: "to be homeless in america: causes, solutions . . .

the **combination** of found materials
and visual/ verbal information

2. the project manual

please check which design elements seem **most appropriate for the topic of homelessness**?

- ☐ recycled paper
- ☐ size of book
- ☒ torn edges
- ☐ textured cover
- ☐ one color (instead of full color)
- ☐ style of type
- ☐ newspaper quality images
- ☒ handwritten sections
- ☐ style of icons and symbols

3. the interactive computer program

this interactive program uses color, scanned images/ textures,
and recorded sounds

do you think the nature of homelessness is communicated well through the use of the computer?

yes **no**

Didn't try

---

4. all three pieces combined

based on the theory that everyone learns differently (through seeing, hearing, touching, etc.) do you agree that combining different mediums in this application is an **effective educational program for children**?

agree (1) — 2 — 3 — 4 — disagree (5)

additional comments:

The found objects piece was very dramatic + really got the point across

project evaluation

please answer the following questions
(comments are appreciated)

1. the display panels

which features of this piece are most effective in conveying a message?
(**circle one**)

the **found** materials: wood, asphalt, metal . . .

the **hand-written** message side: "my name is Yvette Diaz . . . "

the **typed** informational side: "to be homeless in america: causes, solutions . . .

the **combination** of found materials
and visual/ verbal information

2. the project manual

please check which design elements seem **most appropriate for the topic of homelessness?**

- ☐ recycled paper
- ☐ size of book
- ☐ torn edges
- ☐ textured cover
- ☑ one color (instead of full color)
- ☐ style of type
- ☑ newspaper quality images
- ☑ handwritten sections
- ☐ style of icons and symbols

3. the interactive computer program

this interactive program uses color, scanned images/ textures,
and recorded sounds

do you think the nature of homelessness is communicated well through the use of the computer?

yes **no**

---

4. all three pieces combined

based on the theory that everyone learns differently (through seeing, hearing, touching, etc.) do you agree that combining different mediums in this application is an **effective educational program for children**?

agree 1 — 2 — 3 — 4 — disagree 5

additional comments:

IT'S SEEMS THAT THE MORE YOU INVOLVE THE CHILDRENS SENSES IN EDUCATION THE MORE INTERESTED THE CHILDREN BECOME. THIS OBVIOUSLY AIDES TO THE LEARNING PROCESS.

project evaluation

please answer the following questions
(comments are appreciated)

1. the display panels

which features of this piece are most effective in conveying a message?
(**circle one**)

the **found** materials: wood, asphalt, metal . . .

the **hand-written** message side: "my name is Yvette Diaz . . . "

the **typed** informational side: "to be homeless in america: causes, solutions . . "

the **combination** of found materials
and visual/ verbal information

2. the project manual

please check which design elements seem **most appropriate for the topic of homelessness**?

- ☐ recycled paper
- ☐ size of book
- ☐ torn edges
- ☐ textured cover
- ☐ one color (instead of full color)
- ☐ style of type
- ☐ newspaper quality images
- ☒ handwritten sections
- ☐ style of icons and symbols

3. the interactive computer program

this interactive program uses color, scanned images/ textures,
and recorded sounds

do you think the nature of homelessness is communicated well through the use of the computer?

yes no

---

4. all three pieces combined

based on the theory that everyone learns differently (through seeing, hearing, touching, etc.) do you agree that combining different mediums in this application is an **effective educational program for children**?

agree 1 — 2 — 3 — 4 — 5 disagree

additional comments: the level of writing is to high for children
some images might be a little harsh for children.

project evaluation

please answer the following questions
(comments are appreciated)

1. the display panels

which features of this piece are most effective in conveying a message?
(**circle one**)

the **found** materials: wood, asphalt, metal . . .

the **hand-written** message side: "my name is Yvette Diaz . . "

the **typed** informational side: "to be homeless in america: causes, solutions . . .

the **combination** of found materials
and visual/ verbal information

2. the project manual

please check which design elements seem **most appropriate for the topic of homelessness**?

- ☐ recycled paper
- ☐ size of book
- ☒ torn edges
- ☒ textured cover
- ☐ one color (instead of full color)
- ☐ style of type
- ☐ newspaper quality images
- ☒ handwritten sections
- ☐ style of icons and symbols

3. the interactive computer program

this interactive program uses color, scanned images/ textures, and recorded sounds

do you think the nature of homelessness is communicated well through the use of the computer?

yes **no**

---

4. all three pieces combined

based on the theory that everyone learns differently (through seeing, hearing, touching, etc.) do you agree that combining different mediums in this application is an **effective educational program for children**?

agree 1 — 2 — 3 — 4 — disagree 5

additional comments: I am a kindergarten teacher that would find this program ~~helping~~ helpful in teaching my students different aspects about our world.. Some being .. not so wonderful = homelessness !!