Designing for Situations of Elevated Stress

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March 2008

Abstract

This graduate thesis project examined the importance of
information design in the context of problems where stressful
situations can compromise the function of design solutions to
communicate messages clearly and effectively.

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Problem Statement

People are constantly acquiring new information in different situations, such as noisy or crowded places, which cause stress. Some information, such as that of a magazine, is read in comfortable environments where readers have time to enjoy and understand what they are reading. In other instances, such as a situation where there is potential for danger and a warning is required, reading occurs when people are in a heightened state of emotional stress. This thesis defines specific requirements for graphic designers to develop effective solutions based on the kinds and degrees of stress for their target audiences.

Documentation of Need

In the past, this designer developed many advertisements with a focus on persuasion. The research in this thesis involved informing and educating the user through the application of graphic design principles to meet the special needs of audiences under stress. The outcome of this thesis will contribute to the graphic design field because it provides guidance for other designers who need to develop the most effective solutions for these special audiences. This thesis helps to encourage design solutions that reduce people's inconvenience, confusion and stress.

Situation Analysis

Information design must satisfy the needs of a variety of users and address specific functional problems. Designers have to make decisions and design different solutions for each individual situation. For example, a pilot will be concerned with many more dangers and needs to decipher and control many switches and gauges, and will be under greater pressure than that of an automobile driver. The designer must be prepared to address a wide range of contexts, circumstances and influences as part of their problem-solving.

Mission

Although there are many different ways to define users' circumstances, this thesis is focused solely on stressful situations. This thesis develops ideas to aid existing graphic design practices that currently may not take aspects of user stress into consideration. This thesis attempts to address the needs of people with higher levels of stress and helps graphic designers gain a better understanding of the needs that people under stress have.

Goals

The primary goal of this thesis study is to develop specific graphic design requirements for visual communication in stressful situations. These stressful situations could be Unfamiliar content, Message complexity, Time pressure, and Crisis situation. The secondary goal is to systematically evaluate what design considerations work best for users, based on previous case studies. This thesis will serve as a model for other graphic designers to address communication problems where user stress is a critical issue and to suggest design solutions that can reduce stress.

Objectives

This thesis proposes design solutions that correspond with the user's emotional state. One design goal was to develop solutions that relax the user so they are better able to understand the information that is being presented to them. Considering this goal, it is essential to first identify and categorize situations where information needs to be communicated under stressful circumstances. Then, based on the specific situation (what kind of information and user stress), this designer will evaluate and gather design solutions from appropriate case studies. Lastly, through the final application, this designer will show what kinds of design solutions are most effective to use in stressful situations.
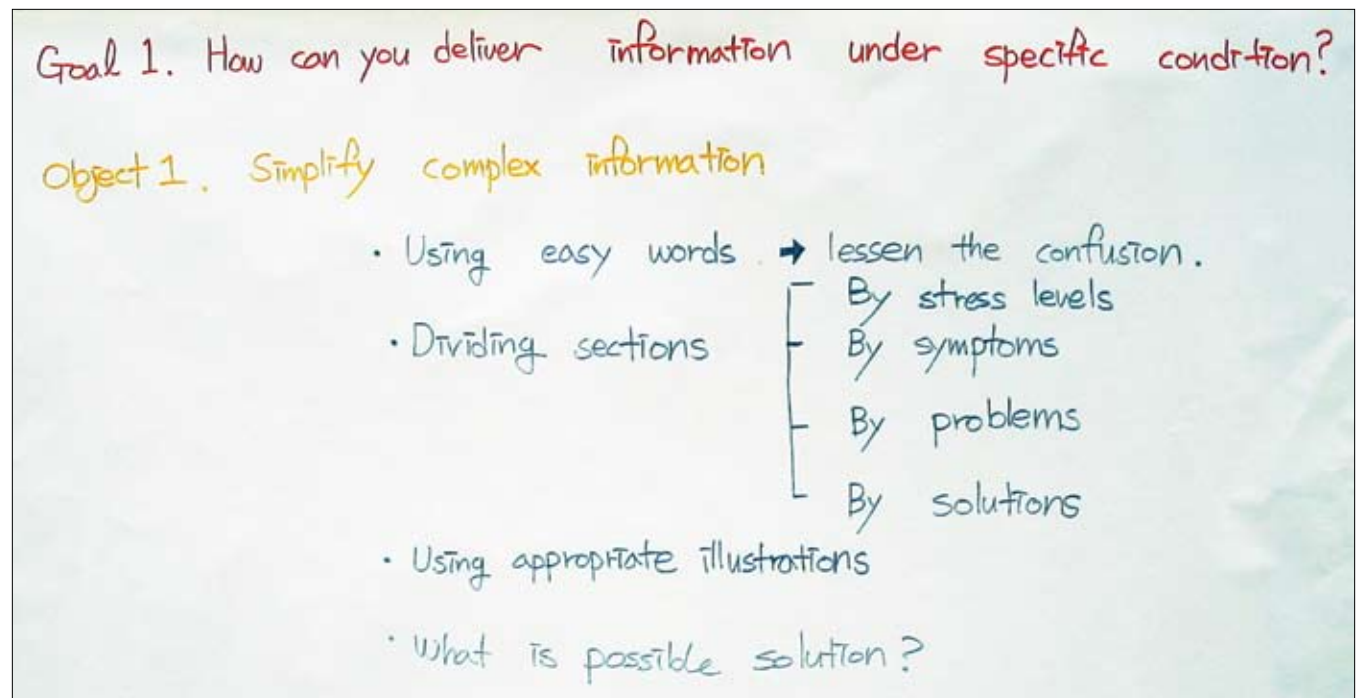
Processes and Strategies

This thesis categorizes and diagrams stress based on particular situations and how people behave during extreme circumstances. Researching categories of information (Property, Principle, Procedure, and Process) is a first step to the scope of this thesis. Then, based on this first step, selected case studies for each category will be identified to give clues about how past designers improved design solutions by comparing how the designs evolved over time. Finally, analysis of successful design applications in terms of design elements (typeface, size, color, etc.) could suggest solutions that are the most appropriate to use when communicating to people under stress.

Thesis Applications

The final design application for this thesis is to provide accurate information to the general public for a stressful situation. To address this problem, this designer chose to redesign the anti-choking poster, which was designed by the American Red Cross in 2001. This application is fitting for the thesis because the anti-choking poster is found in many public areas (and is required in most restaurants), and the information that needs to be communicated will likely be referred to when a victim is choking, which certainly qualifies as a stressful situation. The final application was influenced by results that were discovered in the design solutions of the four different case studies.

Goals	Objectives	Strategies
Identification of Stressful Situations	1 Categorizing and scoping	Classifying stressful situations • Unfamiliar content • Message complexity • Time pressure • Crisis situation • Environment • Disability • Emotional problem
	2 Researching relevant studies	Examining existing case studies • Situation awareness • Situation analysis Interviewing experts Evaluating case studies involving stressful situations
	3 Identifying the characteristic of designs (unique & common)	Making a chart based on the design requirements • Type (size, typeface, weight, and casting) • Visual characteristics (shape, lines, color, and illustration) • Layout (alignment, margin, repetition redundancy, and structure)
Defining Meaning of Information	1 Categorizing subjects	Classifying information • By meaning • By cognitive friction • By relation with user
	2 Scoping range	Defining existing applications
Development of Specific Design Requirements for Stressful Situations	1 Defining design requirements	Researching design requirements • By type • By color • By negative space
	2 Researching relationships	Measuring combinations
	3 Applying existing examples	Evaluating previous research data

Goal	Objectives	Strategies
Designing a final application that incorporates design elements that work best for users based on case studies	1 Selecting final application	Use of mind-mapping and brainstorming
	2 Designing final application based on research	Classifying stressful situations
	3 Evaluating the final system	Usability testing and survey
Evaluation of the Entire Project	1 Evaluating the entire project with thesis members	Gathering and discussing feedback to refine the final project
	2 Designing a final application and printing the final document	Designing final refinements of the application based on evaluations and print the final thesis report

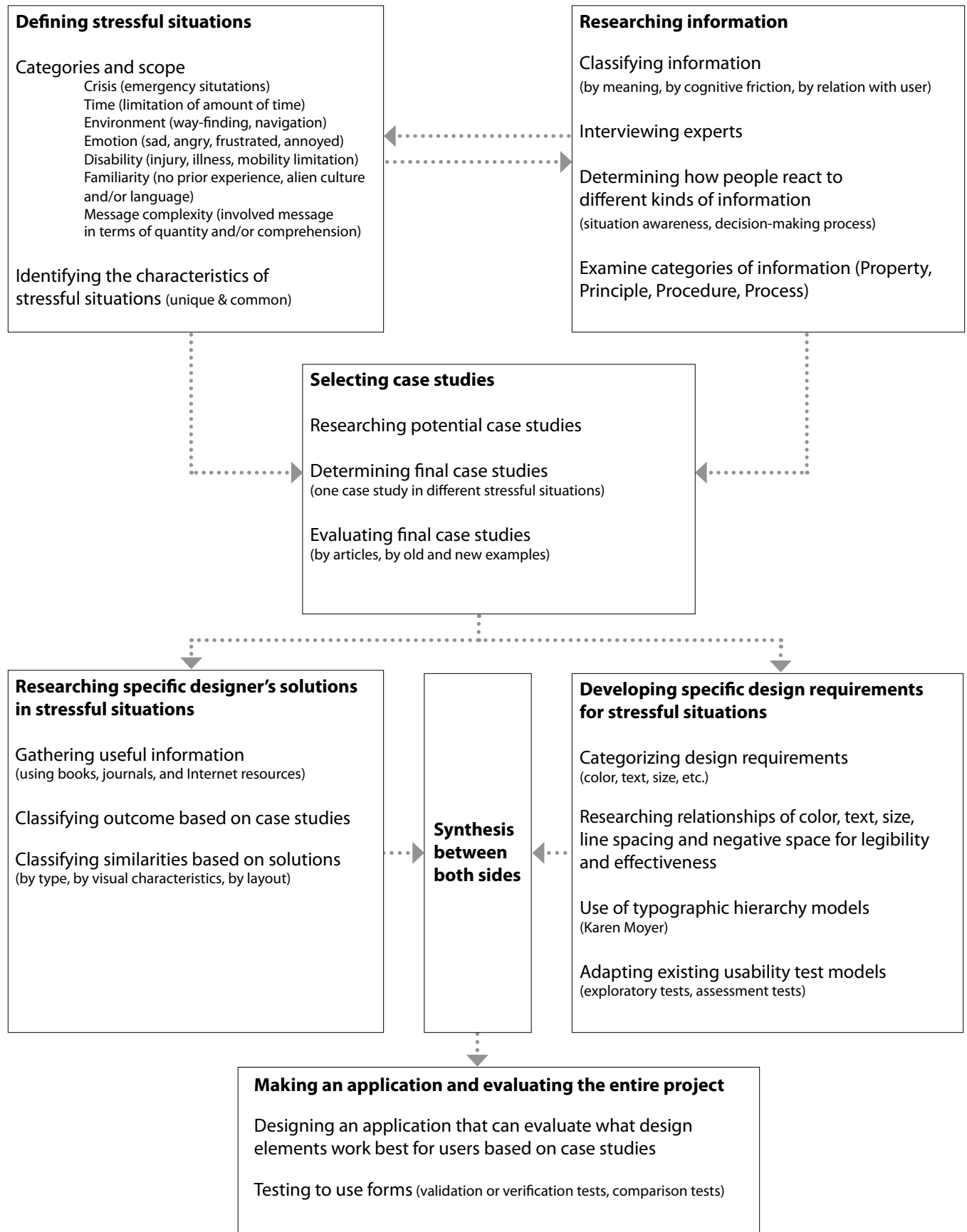1-1 Brainstorming goals, objectives, and strategies

1-2 Brainstorming goals, objectives, and strategies

2 Brainstorming goals, objectives, and strategies

Defining stressful situations

Categories and scope
        Crisis (emergency situtations)
        Time (limitation of amount of time)
        Environment (way-finding, navigation)
        Emotion (sad, angry, frustrated, annoyed)
        Disability (injury, illness, mobility limitation)
        Familiarity (no prior experience, alien culture
        and/or language)
        Message complexity (involved message
        in terms of quantity and/or comprehension)

Identifying the characteristics of
stressful situations (unique & common)

Researching information

Classifying information
(by meaning, by cognitive friction, by relation with user)

Interviewing experts

Determining how people react to
different kinds of information
(situation awareness, decision-making process)

Examine categories of information (Property,
Principle, Procedure, Process)

Selecting case studies

Researching potential case studies

Determining final case studies
(one case study in different stressful situations)

Evaluating final case studies
(by articles, by old and new examples)

**Researching specific designer's solutions
in stressful situations**

Gathering useful information
(using books, journals, and Internet resources)

Classifying outcome based on case studies

Classifying similarities based on solutions
(by type, by visual characteristics, by layout)

**Synthesis
between
both sides**

**Developing specific design requirements
for stressful situations**

Categorizing design requirements
(color, text, size, etc.)

Researching relationships of color, text, size,
line spacing and negative space for legibility
and effectiveness

Use of typographic hierarchy models
(Karen Moyer)

Adapting existing usability test models
(exploratory tests, assessment tests)

Making an application and evaluating the entire project

Designing an application that can evaluate what design
elements work best for users based on case studies

Testing to use forms (validation or verification tests, comparison tests)

Precedent 1
Information Anxiety 2

Wurman, Richard Saul. 2000. *Information Anxiety2*. Pearson Education; 1st edition.

INFORMATION**ANXIETY2**

A decade after the publication of what has become a cult guidebook to understanding, Richard Saul Wurman, in this expanded & updated volume, gives clarity to confusion with new maps for navigating through a stream of bytes which leave us inundated

Richard Saul Wurman, in his book *Information Anxiety*, was one of the first people to raise public awareness about information design issues and their effect on the world. Wurman said, "As information technology matures, the focus will turn away from the machines themselves toward the information itself. The value of the technology lies only in its ability to manage and exploit the product-information." (Information Anxiety 2 297)

The follow-up to the 1st edition, *Information Anxiety 2* shows examples of important lessons for functioning in today's information age. Wurman examined how the Internet, desktop computing, and advances in digital technology enhanced access to information and changed the way we live and work. Wurman analyzed how technological advances can hinder understanding and create anxiety in the user. *Information Anxiety 2* could be a principal text for graphic designers because Wurman's works explain how to transfer important information to specific people, not just general groups. This book has importance for this designer's thesis because it can offer guidance on how to deliver information for targeted audiences.

Precedent 2
Graphic Design and Reading

Swanson, Gunnar. 2000. *Graphic Design and Reading–Explorations of an Uneasy Relationship.* Watson-Guptill Publications.

Graphic Design and Reading is a collection of essays written by graphic designers and edited by Gunnar Swanson, a graphic designer, media designer, writer, and educator who has won over a hundred awards for his work in graphic design in such areas as publications, type, and packaging. The book follows a theme on the relationship between reading and graphic design. Most of these essays focus on how readers respond to design and what impact it has on their ability to understand and accurately interpret the message. For example, in book design, a book that is likely to be read in low light might call for better contrast or larger type than one that would be read in bright light. A devotional book might be held particularly close and given full attention, while an auto repair manual might be read at some distance while the reader struggles with mechanical adjustments, requiring larger type in the latter.

Precedent 3

User-Centred Graphic Design

Frascara, Jorge. 1997. *User-Centred Graphic Design: Mass Communication and Social Change.* CRC Press.
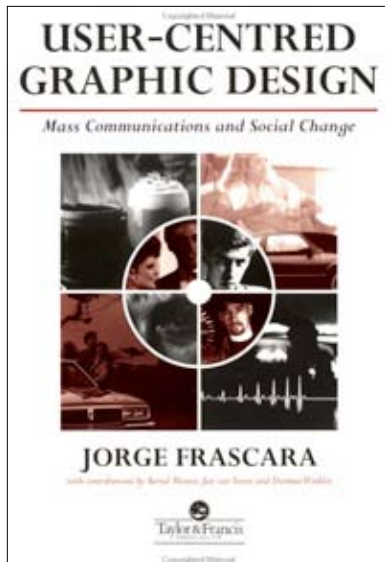
This book details the important contributions that visual communication can have on society. It gives examples of successful socially-oriented projects, showing the human and economic benefits that occur through good communication design. This book also focuses on a user-centered approach to design and includes a new profile for the graphic designer that involves the complex cultural, psychological and often political issues that affect daily communications. This book is useful because it shows how user-centered design can help with projects and develops the best results for specific user groups. Frascara says, "Cognitive strategies and abilities and cultural value systems vary depending on several factors, including environment, age, education, personal skills and occupation. It is evident therefore that the production of visual communications cannot ignore the specific characteristics of the public to be addressed." (User-centred Graphic Design 4)

Precedent 4

The Gallery of Stick-Figure Warning Signs

Smith, Toren. 2003. *The Gallery of Stick–Figure Warning Signs.* http://www.cs.utexas.edu/users/tbone/warningsigns/index.html

This site shows examples of many forms of pictography, the science of conveying information without assuming any prior knowledge. A good stick figure warning sign should be immediately recognizable in its message, even if the viewer is not familiar with the language that is used in the warning sign. This site has impact on the thesis, because every example delivers concise messages without the need for extra text or verbal information. It demonstrates which elements are important and which elements can be left out when conveying messages for times of urgency or great importance.

Information

Introduction of Information

Information to be conveyed generally falls into either of two categories: cautionary or explanatory. Cautionary information is of a critical nature (warning signs and traffic signals) where explanatory information is less critical and not mandatory to be seen (nutrition information and fire extinguisher instructions). This designer will explore these two kinds of information, their contexts, and explore the requirements necessary to achieve effective solutions.

Definitions

Information

- Knowledge derived from study, experience, or instruction.

- Knowledge of specific events or situations that have been gathered or received by communication (verbal and non-verbal); intelligence or news.

- A collection of facts or data: statistical information.

- The act of informing or the condition of being informed; communication of knowledge.

- Processed, stored, or transmitted data. (Computer Science)

- Information is used to caution, inform, explain, direct, clarify, distinguish, illuminate, illustrate and educate.

Dictionary.com
http://www.dictionary.com, Date accessed: March 2005

Information Design 319

Classifying Information

- Property: A description or explanation of something. This can be a definition, fact, picture, concept, drawing, specification, etc. Example: restroom sign

- Principle: Rules, laws, or guidelines, policies, assumptions, etc. Example: formula of math

- Procedure: What you actually do: a set of steps or tasks that one person takes to achieve a specific result. Example: addressing a specific part of the vehicle such as changing a car tire

- Process: What happens: a series of events that takes place over time. A process involves multiple things happening and usually more than one person. We often think of this as the 'big picture.' Example: assembling a vehicle

Information Design for the World Wide Web
http://www.washington.edu/webguides/design.class/infotype.html
Date accessed: December 2004

Categorizing Information

Information to be found
Example: wayfinding, map
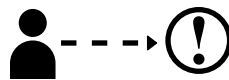
Information to warn
Example: warning sign, traffic signal
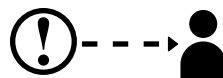
Sequential information
Example: car manual, ATM

One method of categorizing information
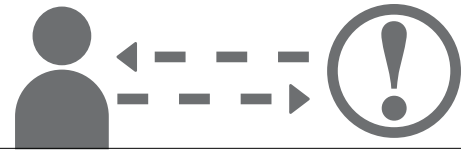
Narrowing the Scope

While deciding the range of information for this thesis study, the designer decided to focus on two kinds of information: Procedure information and Process information. These were chosen because they usually contain secondary information and sub categories. When working with artifacts that contain these forms of information, designers have a lot of opportunities to reduce the users' stress. However, if the designer does not fully understand the content or makes the wrong design decision, many problems can result for users. For instance, Alan Cooper, author of *The Inmates are Running the Asylum*, mentioned that the accident of American Airlines Flight 965 was not the pilot's fault at all. The plane's computer provided insufficient information and lacked proper warning indicators. Because of this lack of foresight in design the end result for the users was disastrous.

The Inmates Are Running the Asylum 3

Introduction of Stress

Although most designers are concerned about their target users when they design their projects, many do not appropriately consider the kind of stress their users experience when using their designs. Almost everyone's ability to think and act clearly is hindered when under stress. For example, immediately after a traffic accident, a driver may need to change a flat tire. She/he may try to use the owner's manual and find it difficult to follow; the writing may seem too complex or doesn't clearly describe their situation. On the other hand, the same person reading the manual without the stress the accident caused would more likely easily understand what the manual describes. So, designers, in general, should consider in what environment and state of mind a user may be, prioritize information that will be important to their situation, and design accordingly.

Definitions

Stress

- A physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation

- A state of bodily or mental tension resulting from factors that tend to alter an equilibrium

- A state of extreme difficulty, pressure, or strain

- A physical or psychological stimulus that can produce mental tension or physiological reactions that may lead to illness

Wikipedia
http://en.wikipedia.org/

Dictionary.com
http://www.dictionary.com, Date accessed: March 2005

Classifying Stressful Situations

This designer focused on key issues of stress, such as when people usually experience stress, why stress occurs, and what kinds of situations may cause stress. After this analysis it was discovered that these kinds of stressful situations could be divided into seven categories:

- **Unfamiliar Content**
  Information that causes stress because it is rarely seen by the user
  (Election ballot)

- **Message Complexity**
  Information that is more difficult to understand because of its highly technical or non-systematic use of language and ideas
  (Computer manual, IRS tax form)

- **Time Pressure**
  Stress that is caused in situations where the user has a lack of time
  (Train schedule)

- **Crisis Situation**
  Extreme situations that could potentially be dangerous or harmful to those involved
  (House fire, earthquake)

- **Emotional Situation**
  A circumstance where the person involved is negatively influenced by their current feelings
  (Surgery form)

- **Environmental Problem**
  A situation where the location of the area adds to the users' stress
  (LCD monitor used outside on a sunny day)

- **Physical Problem**
  Conditions where an individual's abilities are limited for the specific situation
  (Left-handed person with right-handed scissors)

Although these seven categories cover all areas of stress, the environmental problem and physical problem sections were removed from the list because their specific characteristics are very different from the other categories. Both environmental and physical problems require more than just visual communications to adequately deal with these problems. Specifically, these problems require industrial design solutions in addition to visual communications to alter human behaviour such as recycling bins, wheelchairs, etc. In order to narrow the scope of this thesis and focus on stressful public situations that require visual communications to solve the problem, these two categories of stressful situations will be removed.

Narrowing the Scope

For the purpose of this thesis study, four of the categories of stressful situations were selected as areas of focus. These selections were: Unfamiliar content, Message complexity, Time pressure, and Crisis situation. Choosing these four areas out of the seven available was done to eliminate the additional variables of personality and cultural understanding.

Categorizing Stressful Situations

- Crisis
- Time
- Environment
- Emotion
- Disability
- Familiarity
- Message complexity

Measuring Stress in Case Studies

- Election Design
  Familiarity Critical

	1	3	5
Crisis			
Time			
Emotion			
Familiarity			
Message complexity			

- Informed Consent
  Emition Critical

	1	3	5
Crisis			
Time			
Emotion			
Familiarity			
Message complexity			
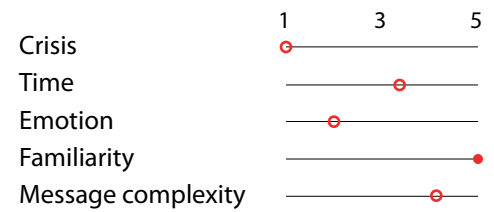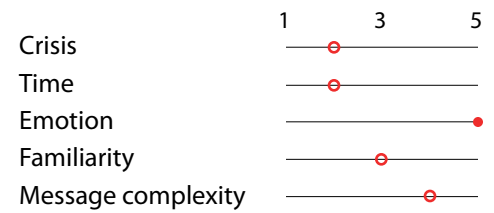
Brainstorming of categorizing and measuring stressful situations

Introduction

To further understand what kinds of design are most effective for different stressful situations, this designer researched existing successful design projects. The main focus was to find and understand different case studies that solved specific stressful situations for their users. The four case studies that were used are Marcia Lausen's US election ballot form (2002), Siegel & Gale's tax form (1980), Joshi's timetable (1996), and the American Red Cross choking poster (1986).

- **Unfamiliar Content**
  Case Study: 2002 US Election Ballot, Marcia Lausen
  The redesign of the existing voting form is provides a useful example of unfamiliar content because people usually only see this form once a year (or less in some cases). For this case study, Marcia Lausen and her team successfully improved the butterfly ballot form.

- **Message Complexity**
  Case Study: 1980 IRS 1040 Tax Form, Siegel & Gale
  The IRS 1040 tax form is a good example for message complexity because this form has many questionnaires in single page, and uses technical words. Siegel & Gale redesigned this form with significant changes.

- **Time Pressure**
  Case Study: 1996 Train Timetable, Yateendra Joshi
  People are usually uncertain in front of train schedules because they have to match the specific train to their schedule as soon as possible. Joshi showed other design possibilities in this project.

- **Crisis Situation**
  Case Study: 1986 Choking Poster, American Red Cross
  The choking poster can play an important role for people when someone else is choking. Since someone's life is in danger in this kind of situation, it is very likely that the helper will have difficulty remaining calm and therefore will have more difficulty following the directions of the poster. The American Red Cross has been updating and improving this choking poster up to present day.

By comparing older and newer designs, this designer determined how the designs were improved across the four case studies. Based on this analysis, the designs were evaluated by type (size, typeface, weight, and casting), visual characteristics (shape, line, color, and illustration), and layout (alignment, margin, redundancy, and structure). Then, this designer analyzed what was similar among the case studies, and identified which design elements were the most beneficial in the design.

Case Study 1
Unfamiliar Content
2002 US Election Ballot, Marcia Lausen

2000 Butterfly Ballot Form before Marcia Lausen's revision

2002 Marcia Lausen's Redesigned Form

Problem Statement

People can easily become stressed when they are voting because ballot forms are unfamiliar to most people. Because of this, ballots must be very carefully designed. A disorganized ballot suggests a disorganized election division. Election officials want ballots that provide clear information–to avoid frustration and mistrust on the part of their constituency. Voters want ballots that are easy to understand so they can be confident they have voted as intended, and that their vote is counted.

AIGA design for democracy
http://designfordemocracy.aiga.org
Date accessed: December 2004

**2000 Butterfly Ballot Form** detail
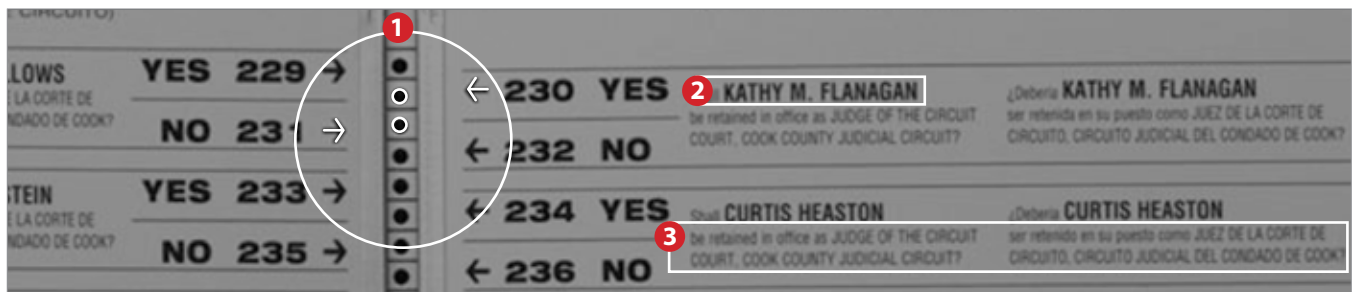
Weak Decisions

1 Punch holes are not sequential. 'Yes' votes on left alternate with 'Yes' votes on the right.
2 Candidates' names are difficult to read in condensed type and all capital letters.
3 Information is needlessly repeated multiple times on each page

2002 Revised Design Solution

Strong Decisions

- Legible typography
- Defined alignment
- Appropriate size margin
- Graphic element and shading

Lowercase letters group to form irregular shapes, which readers use
to quickly and accurately identify words.
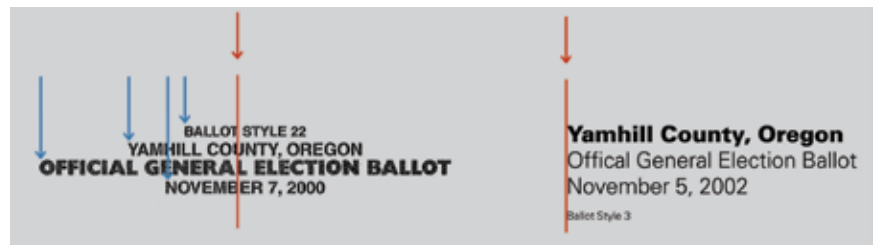
In centered alignment, the position of the beginning of each new line
is inconsistent and unpredictable.

Analysis

Marcia Lausen and her team redesigned the 2000 ballot design system.
The repetitive language is removed by placing instructions in a designated
area. The yes and no votes for each candidate are tightly grouped.
Candidates' names are presented in a larger, bolder, more legible typeface.
Graphic devices and shading are used to connect each name with
corresponding punch locations.

About Marcia Lausen

Marcia Lausen is the director of the School of Art and Design at the University
of Illinois at Chicago where she has taught graphic design since 1994.
In addition to her role at UIC, Marcia is one of the founders of Studio/lab
serving as creative director of the Chicago office.

AIGA (American Institute of Graphic Arts)
http://www.aiga.org, Date accessed: March 2005

Assessment

This designer identified the different design elements that were used in the old and new versions of each ballot forms. And, using a matrix, analyzed the differences between them. This matrix is used to show where significant changes occurred in each of the applications. The design elements can be divided into three major sections (typographic decisions, visual characteristics, and layout), and each of these sections have their own specific attributes. The results found in the matrix are applied to the final application.

	2000 Butterfly Ballot Form	**2002 Marcia Lausen's Form**
Type		
Sizes	4	2
Typefaces	Arial (Sans Serif)	Univers 65 (Sans Serif)
Weights	4	2
Casing	All Capitals	Upper & lower case
Visual Characteristics		
Shape	None	Oval shapes used to distinguish elements
Line	Straight line used to distinguish elements	Line with a radius curve
Color	Solid B&W	Solid B&W with gray screen (20%)
Illustration	None	None
Layout		
Alignment	Centered	Flush left, ragged right
Margins / Negative space	10%	30%
Repetition / Redundancy	High	Low
Structure (eye flow)	Top to bottom	Top to bottom

Case Study 2
Message Complexity
1980 IRS 1040 Tax Form, Siegel & Gale

1980 IRS 1040 Tax Form before Siegel & Gale's revision

1980 Siegel & Gale's Redesigned Form

1980 Federal Income Tax Return

Short Form

Determine your filing status (page 00) and turn to the instructions for that filing status. Then follow the steps below.

Privacy Act. The IRS must explain its right to ask for information (page 00).

Step 1 | **Name and address**

Place the mailing label from the back cover in the space below. Make corrections right on the label. If you don't have a label, print the following information.

Your name (first, initial, last)	Social Security number
Spouse's name (first, initial, last) if joint return	Social Security number
Street address (include apt. no.)	City or town, state, and zip code

Revenue sharing information (page 00). Where do you live?

State	City, village, or borough	Do you live within the legal limits of a city or village?	☐ Yes ☐ No
County	Township	For IRS use only	

Step 2 | **Check your filing status**

Check ☑ the box for your filing status (page 00):

☐ Single (and some married taxpayers who lived apart, see page 00).

☐ Head of household, *only* if you provided a home for another person (page 00).

☐ Married filing a joint return (and some widowed taxpayers, see page 00).

☐ Married filing separate returns (see page 00). Print:

Spouse's name	Spouse's Social Security number

Step 3 | **Presidential Election Campaign Fund**

Should the IRS give $1 of your tax to this fund? | **Joint return:** Does your spouse want $1 to go to this fund?

☐ **Yes**   ☐ **No**   ☐ **Yes**   ☐ **No**

Step 4 | **Figure your personal deductions**

Take 1 deduction for yourself.	**1**
Joint return: Also take 1 deduction for your spouse. (Widowed taxpayers, see page 00.)	+
Age 65. Take 1 deduction if you were 65 by January 1, 1981.	+
Joint return: Also take 1 deduction if your spouse was 65 by that date.	+
Blindness (page 00). Take 1 deduction if you were blind.	+
Joint return: Also take 1 deduction if your spouse was blind (page 00).	+
Dependents. Take 1 deduction for each dependent you claim (page 00).	

First names of dependent children who lived with you

	+

Names of other dependents	Relationship	No. of months person lived in your home	+

	+

Line 1. Total personal deductions   =   1

Form 0000 — U.S. Department of the Treasury — Internal Revenue Service

Problem Statement

Because the IRS 1040 tax form has to show a lot of information to the user, the form is usually divided into many sections and lines are used for dividing. Due to the abundance of information and questions in the tax form, some people have difficulty understanding what, how, and where to answer the questions listed. Also, because it is directly related to essential financial information, the average user can easily become nervous.

1980 Tax Form detail

1980 Tax Form, prior to the Siegel and Gale redesign

Different sized boxes and lack of negative space increases confusion

Revised Design Solution

Strong Decisions
- Inclusion of a personal tone ('I' , 'Your', 'You')
- Use of simple language for easier reading and understanding
- Reorganization using generous negative space

In 1980, Siegel & Gale suggested these techniques to designers who try to design forms: totally reorganize information for the consumer, use personal tone of language such as 'I', 'we' and 'yours', radically simplify language, and use active verb forms to enhance clarity.

Print v.35, *Good Form 38*

Revised Design Solution detail

Your name (first, initial, last)	Social Security number
Spouse's name (first, initial, last) if joint return	Social Security number
Street address (include apt. no.)	City or town, state, and zip code

Siegel and Gale's tax form shows better seperation and structure of information

Step 2   Check your filing status

Check ☑ the box for your filing status (page 00):

☐ Single (and some married taxpayers who lived apart, see page 00).

☐ Head of household, *only* if you provided a home for another person (page 00.)

☐ Married filing a joint return (and some widowed taxpayers, see page 00).

☐ Married filing separate returns (see page 00). Print:

Numbering each area, use of generous negative space, and clearly visible check boxes

Analysis

Siegel & Gale and their team successfully applied a simplified language system in their project. It improved users' ability to understand the form. In addition, creating generous margins and negative space in the short form were enough to lessen the message complexity.

About Siegel & Gale

Siegel & Gale is an international design firm that helps established and emerging companies create new businesses, brands, products, and services in the information economy. The firm provides brand identity, strategic marketing and information architecture firms with a customer-centered approach to Internet business strategies, design and research.

Assessment

This designer gathered the different design elements that were used in the old and new versions of each tax form. Using a matrix, the differences were identified and documented. This matrix shows where significant changes occurred in each of the redesigns. The design elements can be divided into three major sections (type, visual characteristics, and layout), and each of these sections have their own specific categories. The results in the matrix are integrated into the final application.

	1980 1040 Tax Form	**1980 Siegel & Gale's Form**
Type		
Sizes	4	2
Typefaces	Arial (Sans Serif)	Franklin Gothic Century School Book
Weights	2	2
Casing	Upper & lower case	Upper & lower case
Visual Characteristics		
Shape	None	None
Line	Solid and dotted lines used to distinguish elements	Solid lines used to distinguish elements
Color	Solid B&W	Solid B&W
Illustration	None	None
Layout		
Alignment	Flush left, ragged right	Flush left, ragged right
Margins / Negative space	5%	20%
Repetition / Redundancy	High	Low
Structure (eye flow)	Top to bottom	Top to bottom

Case Study 3
Time Pressure
1996 Timetable, Yateendra Joshi

1984 Indian Railway Timetable before Yateendra Joshi's revision

Table-5	BOMBAY V.T.–PUNE–DAUND (B.G.)									DOWN		
Train No.	STATIONS		1551	1553	2113	1007	6529	7307	1321	7031	1617	1547	2701
			Pune-Daund Passenger II	Pune-Daund Passenger II	Bombay–Pune Super Fast Indrayani Expr AC II, II	Bombay–Pune Deccan Exp. I & II	Bombay–Bangalore Udyan Exp. I & II, AC II	Bombay–Kolhapur Koyna Exp. I & II	Pune-Daund Manmad Jalna Passenger I & II	Bombay–Hyderabad Exp. I & II AC II	Karjat–Pune Passenger II	Pune-Daund Pass. II	Miraj-Nizamuddin Goa Super Fast Exp. I & II AC II
...	BOMBAY V.T.	d			06 00	06 40	07 55	08 45		12 35			
5	Byculla S. bk.				...	...	...	...		...			
9	Dadar S. bk.	d			06 12	06 52	08 11	09 00		12 48			
16	Kurla S. bk.	...			...	...	...	...		...			
34	Thane S.	...			...	...	...	09 29		...			
54	KALYAN JN.	a			...	07 45	09 11	09 58		13 45			
		d			...	07 50	09 16	10 03		13 50			
56	Vithalwadi bk. T.	...			...	...	...	...		...			
58	Ulhasnagar S.	...			...	...	...	...		...			
60	Ambernath S. bk.	...			...	...	...	...		...			
68	Badlapur S. bk.	...			...	...	...	...		...			
78	Vangani	...			...	...	...	...		...			
82	Shelu	...			...	...	...	...		...			
87	NERAL JN. T.L.	...			...	08 19	...	10 33		...			
93	Bhivupuri Road	...			...	...	...	...		...			
100	Karjat bk. VN	...			07 25	08 38	...	10 50		14 33	15 15		
114	Khandala S.	...			...	09 35	...	11 35		...	15 53		
118	LONAVALA VNS–bk.				08 17	09 50	10 55	11 50		15 32	16 05		
126	Malavli S.	...			...	...	...	...		...	...		
134	Kmshet	...			...	...	...	...		...	...		
144	Vadgaon	...			...	...	...	...		...	...		
158	Talegaon S.	...			...	...	...	12 21		...	16 40		
160	Ghorawadi	...			...	...	...	...		...	...		
164	Bagdewadi	...			...	...	...	...		...	...		Ex. Miraj Dep. 06 45
168	Dehu Road	...			...	...	...	...		...	16 56		
172	Akurdi	...			...	...	...	...		...	17 04		
176	Chichwad S.	...			...	...	...	12 43		...	17 11		
178	Pimpri S.	...			...	...	...	...		...	17 17		
180	Kasarwadi	...			...	...	...	...		...	...		
184	Dapodi	...			...	...	...	...		...	17 25		
186	Khadki S. bk.	...			...	10 48	...	13 00		...	17 33		
190	Shivaji Nagar S. bk.	...			09 20	10 58	...	13 14		...	17 44		
192	PUNE JN. T.	a			09 30	11 15	12 00	13 30		16 55	17 55		
	VNS bk.	d	07 30	11 20			12 20	13 50	15 30	17 15		17 55	12 35
198	Hadapsar	...	07 41	11 31			...		15 41	...		18 06	...
	Manjari Budruk (H)	...	07 47	11 37			...		15 48	...		18 12	...
08	Loni	...	07 55	11 45			...		15 56	...		18 20	...
21	Uruli S.	...	08 10	12 00			...		16 10	17 40		18 35	...
34	Yevat	...	08 24	12 14			...		16 25	...		18 49	...
46	Kedgaon	...	08 38	12 28			...		16 40	18 03		19 03	...
56	Patas	...	08 49	12 39			...		16 52	...		19 14	...
18	DAUND JN.	a	09 10	13 00			13 20		17 10	18 30		19 35	13 40
	VNS–bk.	d					13 30		17 35	18 40			14 00

1996 Joshi's Redesigned Railway Timetable

Leaves Bombay	Journey time from Bombay to Pune in hours	Reaches Pune
MORNING		
6.00	**Indrayani Express 2112 Dn** *Dadar, Karjat, Lonavala, Shivaji Nagar*	9.30
6.45	**Deccan Express 1007 Dn** *Dadar, Kalyan, Neral, Karjat, Khandala, Lonavala, Khadki, Shivaji Nagar*	11.15
7.55	**Udyan Express 6529 Dn** *Dadar, Kalyan, Lonavala*	12.00
8.45	**Koyna 7307 Dn** *Dadar, Thane, Kalyan, Neral, Karjat, Khandala, Lonavala, Talegaon, Chinchwad, Khadki, Shivaji Nagar*	1.30 p.m.
AFTERNOON		
12.35	**Hyderabad Express 7031 Dn** *Dadar, Kalyan, Karjat, Lonavala*	4.55
2.25	**Dadar–Madras Express 6511 Dn** *Kalyan, Karjat, Lonavala, Khadki*	6.20
2.35	**Sinhagad Express 1009 Dn** *Dadar, Kalyan, Karjat, Khandala, Lonavala, Chinchwad, Pimpri, Khadki, Shivaji Nagar*	7.05
3.35	**Kanyakumari Express 1081 Dn** *Dadar, Kalyan, Karjat, Lonavala*	7.45
4.25	**Pragati 2125 Dn** *Karjat, Lonavala, Shivaji Nagar*	8.05
EVENING		
5.10	**Deccan Queen 2123 Dn** *Karjat, Lonavala, Shivaji Nagar*	8.35
5.50	**Sahyadri 7303 Dn** *Dadar, Kalyan, Karjat, Khandala, Lonavala, Talegaon, Dehu Road, Pimpri, Khadki, Shivaji Nagar*	10.25
7.50	**Dadar Madras Chenai Cochin Express 6063 Dn** *Kalyan, Lonavala*	10.00
8.20	**Kurla–Netravati Express 6635 Dn** *Kalyan, Lonavala*	00.15 a.m.
8.45	**Dadar Mahalaxmi Express 7311 Dn** *Kalyan, Karjat, Lonavala*	1.00
LATE EVENING		
9.55	**Minar 2101 Dn** *Kalyan*	1.45
10.05	**Siddheshwar 1023 Dn** *Dadar, Thane, Kalyan, Karjat, Khandala, Lonavala, Dehu Road, Pimpri, Khadki, Shivaji Nagar*	2.50
10.20	**Kurla–Bangalore 1013 Dn** *Kalyan*	2.15
11.10	**Hussainsagar 7001 Dn** *Dadar, Kalyan, Karjat, Lonavala*	3.25
11.15	**Madras Mail 7009 Dn** *Dadar, Kalyan, Karjat, Lonavala, Khadki*	3.30
11.20	**Pune Passenger 1325 Dn** *Byculla, Dadar, Kurla, Than, Kalyan, Ullhasnagar, Ambarnath, Badlapur, Vangani, Neral, Bhivpuri Rd, Karjat, Khandala, Lonavala, Malavali, Kamshet, Vadgaon, Talegaon, Ghorawadi, Bagdewadi, Dehu Rd, Khurdi, Chinchwad, Pimpri, Dapodi, Khadki, Shivaji Nagar*	5.50

Column scale markers across the top: 3 ½ hours · 4 ½ hours · 5 ½ hours · 6 ½ hours

Problem Statement	Busy people in a crowded train station may have difficulty finding and determining train schedules. During the process of choosing a train, people have to think about both departure and arrival times. Some people may need other specific information, such as food availability or duration of trip.

Revised Design Solution

Strong Decisions
- Making totally new concept based on user needs
- Improvement on existing text legibility
- Use of basic graphic elements for calculating
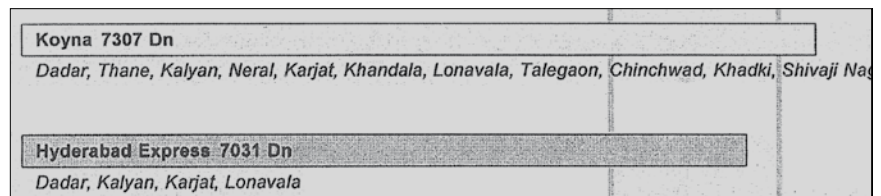
Each bar represents a specific train and includes the name and number of the train as well.
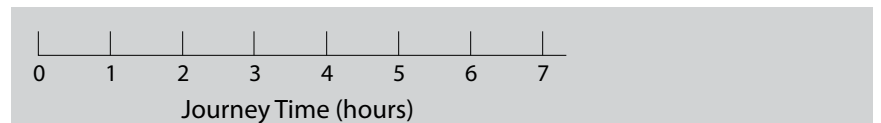
A scale showing the time, in hours, is placed at the foot of the timetable.

Dividing the train information into four groups based on their departure times, using different colors and including bars helps add clarity to the train timetable.

Analysis

Yateendra Joshi redesigned the old train timetable in India. He concentrated on the three most common reasons people choose a particular train: people want options for a convenient time to leave, a convenient time to arrive, or ways to spend the least amount of time on the journey. His new and improved solution is accomplished by using organized and refined information.

About Yateendra Joshi

Yateendra Joshi, Author of *Communicating in Style. 2003*,
She wrote *Communicating in Style* for her company, The Energy and Resources Institute (TERI), which is based in New Delhi, India, to use as its corporate style guide.

Assessment

This designer gathered the different design elements that were used in the old and new versions of each railway timetable. Using a matrix, the differences were identified and documented. This matrix shows where significant changes occurred in each of the redesigns. The design elements can be divided into three major sections (type, visual characteristics, and layout), and each of these sections have their own specific categories. The results in the matrix are integrated into the final application.

	1984 Indian Railway Timetable	**1996 Joshi's Railway Timetable**
Type		
Sizes	2	3
Typefaces	Arial (Sans Serif)	Univers 65 (Sans Serif)
Weights	2	2
Casing	Upper & lower case, All capitals	Upper & lower case
Visual Characteristics		
Shape	None	White, gray and black boxes
Line	Solid & dot lines used to distinguish elements	Vertical lines used to distinguish the time
Color	Solid B&W	Solid B&W with gray
Illustration	None	None
Layout		
Alignment	Centered Flush left, ragged right	Flush left, ragged right
Margins / Negative space	15%	18%
Repetition / Redundancy	Low	Low
Structure (eye flow)	Left to right, top to bottom	Left to right, top to bottom

Case Study 4
Crisis Situation
1986 Choking Poster, American Red Cross

1983 American Red Cross Choking Poster before 1986 revision

1986 American Red Cross Redesigned Choking Poster

Problem Statement

A choking poster has two different kinds of readers: the first is one who would like to learn anti-choking maneuvers for future emergencies. In this case, the information is not learned during a crisis situation, but at the user's leisure, making it a simple learning situation. The second kind of reader is one who is attempting to learn the information in an emergency situation, which involves an individual, potentially a family member or friend, actually choking. Therefore, the anti-choking poster should not simply be designed for calm learning purposes, but also for high-stress situations where immediate clarity and understanding is essential to save a life.

Revised Design Solution

Strong Decisions
- Reorganization of information structure
- Simplification of illustrations
- Use of generous margins

About American Red Cross

Since its founding in 1881, the American Red Cross has been the nation's premier emergency response organization. Over the years, the organization has expanded its services, always with the aim of preventing and relieving suffering.

Analysis

The 1986 American Red Cross choking poster shown on page 30 has more accessible information than the 1983 poster shown on page 29 because each step of the Heimlich maneuver is clearly designated by an enlarged number. Also, by limiting the number of type sizes and using white space more generously, viewers can find what they want to know and easily follow the next step. In addition, implementing stylized color illustrations makes it easier for users to understand each step. These design decisions guide the user through the instructions with ease.

| **Assessment** | This designer gathered the different design elements that were used in the old and new versions of each choking poster. Using a matrix, the differences were identified and documented. This matrix shows where significant changes occurred in each of the redesigns. The design elements can be divided into three major sections (type, visual characteristics, and layout), and each of these sections have their own specific categories. The results in the matrix are integrated into the final application. |

	1983 Choking Poster	**1986 Choking Poster**
Type		
Sizes	7	3
Typefaces	3 (Century, Helvetica, Arial)	1 (Futura)
Weights	3	2
Casing	Upper & lower case, All capitals	Upper & lower case, All capitals
Visual Characteristics		
Shape	None	None
Line	1 dotted line, 3 different lines with arrows, 1 thin hairline	None
Color	B&W with red	B&W
Illustration	Highly representational, Stylized illustration B&W line only	Highly representational, Stylized illustration Full-color, line & solid shapes
Layout		
Alignment	Centered Flush left, ragged right	Flush left, ragged right
Margins / Negative space	23%	45%
Repetition / Redundancy	Low	Low
Structure (eye flow)	Left to right, Top to bottom	Top to bottom

Introduction

Several design application possibilities were considered for this thesis, with a view toward demonstrating the design strategies discovered during research. Therefore, the application should be one of common use in the general public, which would likely be used in high stress situations. Below are the possible applications that were considered.

Possible Application 1

Vehicle   On-line interactive guide

Purpose   A program to help teach designers how they can reduce a user's stress level using specific design variables (text alignment, size, etc)

Target users   Graphic designers primarily involved with information design

Function   When a graphic designer starts this program, he/she would import the target user's information based on the stress of each category (Unfamiliar content, Message complexity, Time pressure, and Crisis situation). The program would then provide design solutions which are based on result of this thesis with explanations of what past designers concentrated on in terms of design variables.

Strong points
- Limitless updates and amounts of information
- Users have interactive capability
- Easy to change format (book, poster, etc)

Weak points
- Approach may be more difficult for users less familiar working with computers
- Difficult to know actual size and color

Possible Application 2	**Vehicle**	Guide to designing for stress (web-based application)
	Purpose	A program to help teach designers how they can reduce a user's stress level using diverse design elements (text alignment, size, etc)
	Target users	Graphic designers primarily involved with information design
	Function	This application is basically the same as Application 1, but also includes a community section that would allowing designers to discuss their projects with other designers, including those from other disciplines (industrial design, interior design, etc) to gather feedback from different points of view. Additionally, by implementing an evaluation system, people can vote on which design solutions they believe are more effective and efficient.
	Strong points	• Easy to disseminate this program • Ability to share many designers' ideas, opinions, and feedback
	Weak points	• Use is limited to situations where a computer and internet access is available • Misunderstanding about color and size due to computer screen inconsistencies

Possible Application 3	**Vehicle**	Poster (diagnostic version)
	Purpose	Easy to follow guidelines for graphic designers about how they can reduce a user's stress level
	Target users	Practicing graphic designers
	Function	This application would be a large-sized poster displaying the different categories as well as solutions that would be appropriate for different combinations of stress. It helps designers identify what kinds of stress their consumers experience in different situations. As designers determine the target user's stress level for their project, they can consult design solutions from past successful projects.
	Strong points	• Easy to access • Precise understanding of actual sizes, details and colors • Convenient to focus on what viewers want to know
	Weak points	• Requires enough wall space to post • Difficult to change format

Possible Application 4	**Vehicle**	Guidebook
	Purpose	Easy to follow guidelines in a book format for graphic designers about how they can reduce a user's stress level
	Target users	Practicing graphic designers
	Function	This application deals with different kinds of design requirements. Each section has its own dominant color system, typeface and solution category. It not only suggests ways to reduce the user's stress, but also identifies the kinds of stress and solutions that this thesis recommends.
	Strong points	• More portable than other formats • Able to show information in actual size and detail
	Weaker points	• Difficult for readers to find what they are looking for • Difficult to update and maintain over time

Introduction of Negative Space

Throughout Asia, *yin* and *yang* is a very common theory in philosophy and art. It describes every thing in the world as having an opposite. Like light versus dark, and sky versus land, graphic designers must consider positive versus negative space in their work. Sometimes negative space can be overlooked when focusing on positive content. Negative space is not just empty space between objects; it provides readers with clues about the distinction among images and text, flow of information, and provides an environment in which both exist.
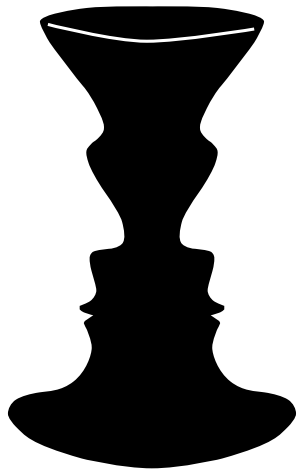
Most people are familiar with the Rubine vase an example of optical illusion. When the vase is the figure, it seems to be in front of white background, whereas the faces are in front of a black background when the view is reversed. This example illustrates that sometimes the use of inadequate negative space can lead viewers to the wrong conclusion or meaning. For this reason, this designer researched the use of negative space to understand how it aids users and creates opportunities to improve readability. For the analysis of negative space, this designer counted how many negative spaces were used in the existing choking posters by using grids which consist of 1,620 to 1,650 small, equal-size squares.

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Example of the negative space (black table) between positive objects (plates, glasses)

**Measuring Negative Space 1
American Red Cross Posters**

Through the use of a standard grid, the amount of white space used for each case study was measured. Usually the use of negative space helps separate content, making it easier for the viewer (reader, user) to understand the different parts of the message.

Total blocks	1,650
Black blocks only	382
Negative space	23 %

Total blocks	1,620
Black blocks only	737
Negative space	45 %
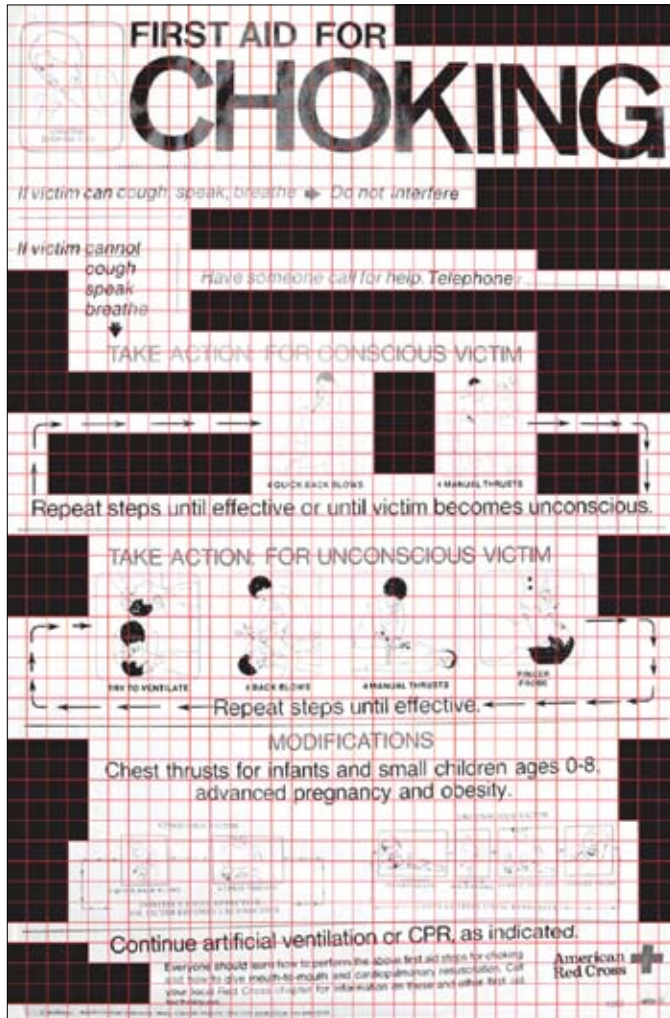
1983 American Red Cross Choking Poster
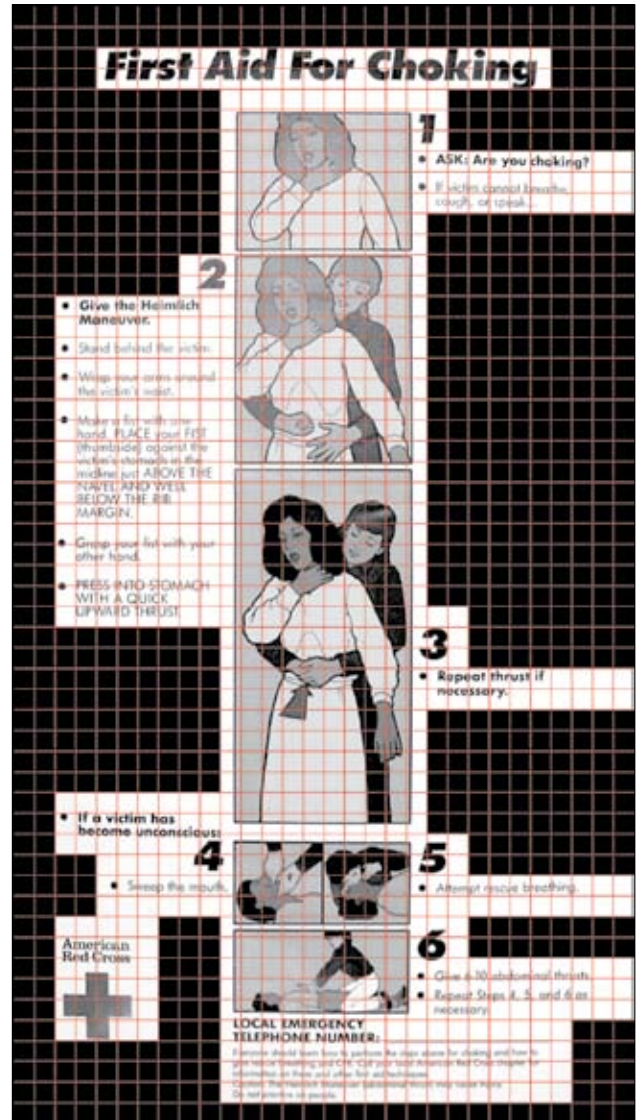
1986 American Red Cross Choking Poster

Measuring Negative Space 2
American Red Cross Poster and Commercial Poster

Total blocks	1,620		Total blocks	1,650
Black blocks only	463		Black blocks only	356
Negative space	29 %		Negative space	22 %
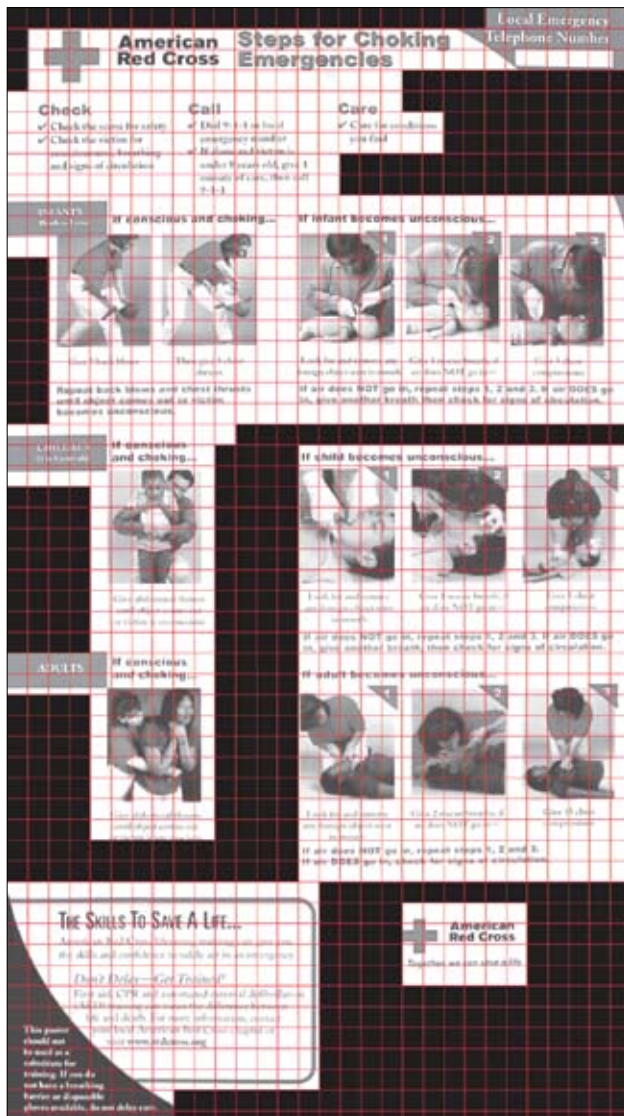
2001 American Red Cross Choking Poster
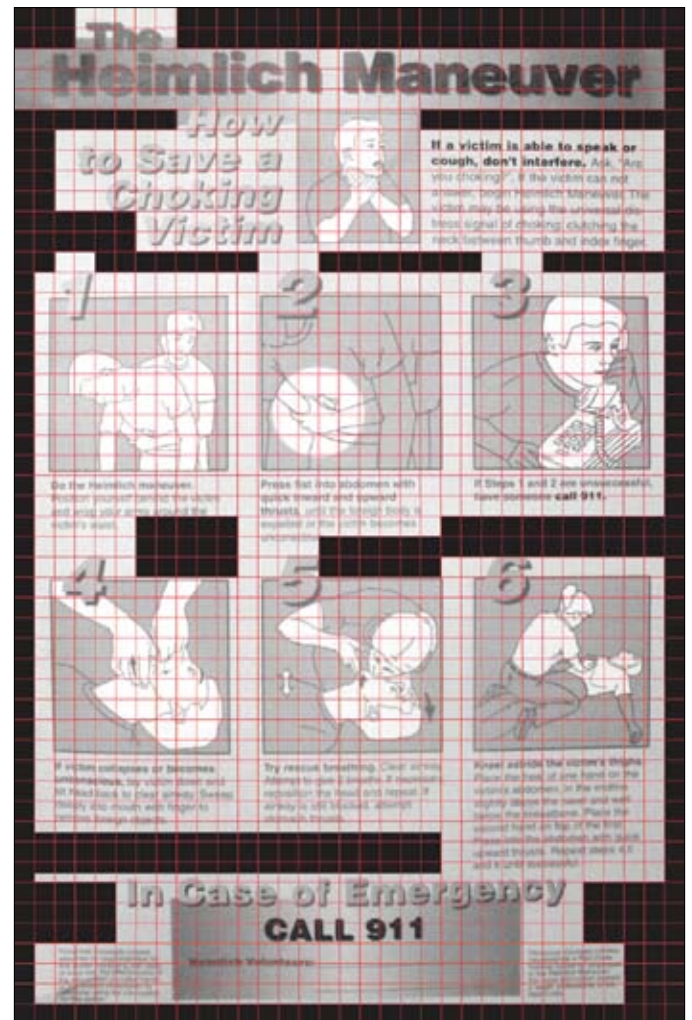
2003 Commercial Choking Poster

The intermediate evaluation consisted of a careful examination of four case studies, selected to represent the four categories of stress (Unfamiliar content, Message complexity, Time pressure, and Crisis situation). All four case studies focused on the broader sequential aspects of information, *Procedure* and *Process*, as described earlier on page 10.

From this examination, the comparison of original (or older) solution, and revised design solutions from each case study revealed specific design strategies employed to address user needs in a stressful situation. Significant in this comparison were the weaker points of the original solutions and the stronger points of the revised design solutions listed below:

Weaker Points

- Too many different typefaces, sizes and weights
- Use all capital letters
- Too many visual cues (arrow, symbols, lines)

Strong Points

- Exclusive use of upper and lower case typography
- Appropriate organization of content
- Flush left, ragged right text format
- Use of generous margins and negative space
- Reducing repetition and redundancy
- Use of language simplification to yield clear, understandable English

About the Application

Using findings from the case studies, an existing choking poster was considered as a possible application. It contained appropriate design considerations for situations of elevated stress because the choking poster has to be designed not only for a Crisis situation, but also in answer to Unfamiliar content, Message complexity, and Time pressure. The goal of this application is to demonstrate the effectiveness of these design strategies and help graphic designers better understand the issues of designing when trying to reduce the potential effects of user stress.

Problem Statement

The 2001 American Red Cross choking poster is the most recent version in use; however, as has already been stated on page 39, it has several problems that need to be addressed.

2001 American Red Cross Choking Poster

Layout Problems

The existing poster has organizational and structural problems. It consists of three sections for emergency and education. The first section recommends checking the environment and the victim. The second section (main section) commands the most space as it shows how to treat the victim, how to use CPR and the Heimlich maneuver. This section was divided into different age groups (infants, children and adults) and organized by the victim's condition (conscious or unconscious). The last section contains information about the American Red Cross and related education. Because the old poster's categories and layout use linear alignment across the two different directions for eye movement; right to left and top to bottom, users felt the information was complex and hard to follow.
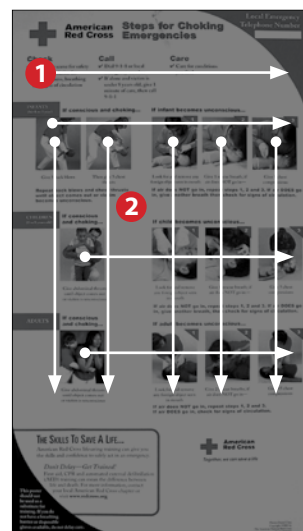
1   White color arrows show users' possible direction of eye movement
2   Vertical and horizontal negative spaces between groups of images make the sequence and associations of images ambiguous

Problem Statement

Language Problems

The 2001 poster uses unclear messages and many repetitions. For instance, very detailed explanations are useful for people who want to obtain specific information, but, in this case, the target user is the general public or people who have to save a victim in time-limited circumstances. Therefore, the anti-choking poster must use concise and clear language to reduce the user's stress. An overabundance of information prevents reducing stress. The 2001 poster repeats the same exact sentences in each category (adults, children, infants). This duplication makes it difficult for users to distinguish categories in a stressful situation.
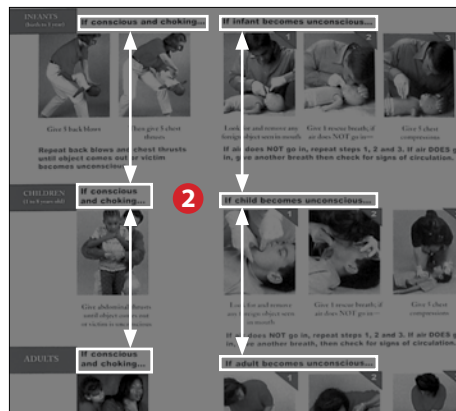
1 Message is unclear and potentially misleading (the point is not to repeat the abdominal thrusts until the victim becomes unconscious)

2 Repetition of the same message is confusing and not helpful

Typography Problems

In regard to typography, the 2001 poster used all capital letters in some parts, used two different alignments (center alignment, flush left and ragged right alignment), and decorated symbols and typefaces. These various design techniques also made it difficult for the reader to focus on important information since the reader's attention is drawn to multiple areas of the poster.
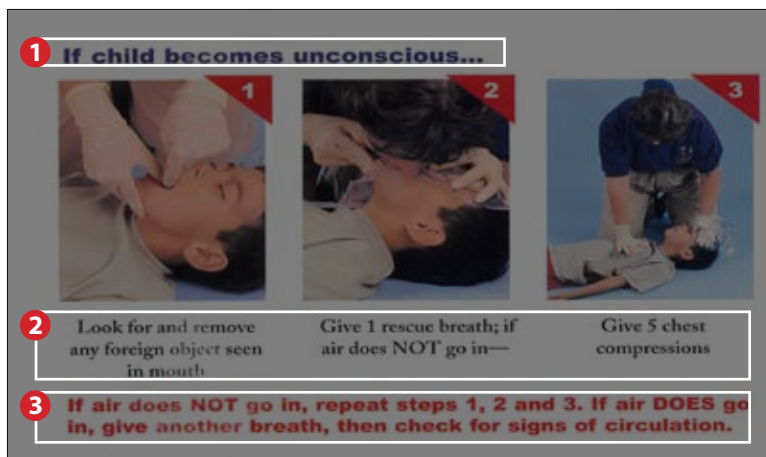
Point 1 and 3 are consistent and effective, while point 2 is not:

1 Flush left, and ragged right alignment with a sans serif typeface

2 Central alignment with a serif typeface

3 Flush left, and ragged right alignment with a sans serif typeface

Problem Statement

Image Problems

The 2001 poster uses photographic images for instruction. Although these photo images give vivid and realistic depictions to the viewer, the amount of extraneous visual information does not help focus the viewer on the salient information, forcing the user to focus instead on irrelevant details. For example, when people see the photo images in the poster, unrelated details such as clothing, hairstyle, and facial expressions could distract the viewer from key information the viewer need.

2001 Choking Poster Image

1987 Choking Poster Image

1 In the selected area, realistic picture (left) has more extraneous information
2 In the selected point, the stylized illustration (right) provides more accurate information

Redesigning the Choking Poster

First Step

This designer removed all decorative parts of the existing 2001 poster. The decorated areas include meaningless lines and colors. This ornamentation distracts the user from the main communication, so all meaningless colors, lines, or shapes were eliminated.

Second Step

The existing poster's visual structure was modified. The 2001 poster showed the *infants* section first, the *children* section second, and the *adults* section last. It appeared to be arranged by age. Because victims and readers are primarily adults, the sequence and priority was restructured as adults, children, and infants. Different background colors were selected to distinguish the three age sections. Another major change in the layout was the division between conscious and unconscious victims. The 2001 poster did not make a clear distinction between these two categories. This is key information for saving someone's life because the process of helping a choking victim is very different depending on whether or not they are conscious.
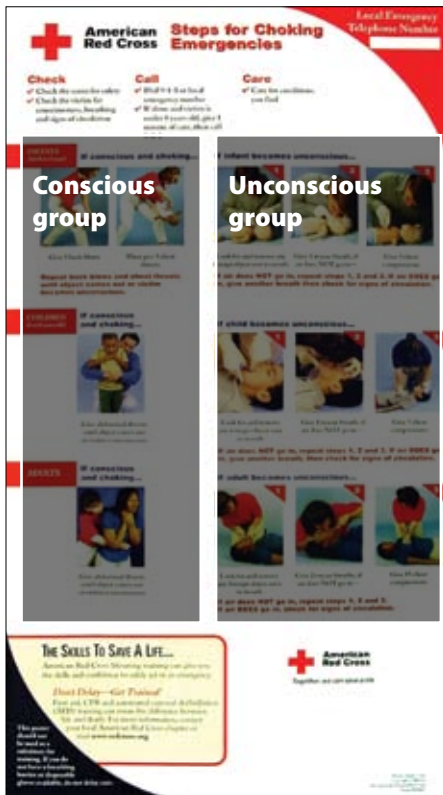
Comparison of information organization
between the existing 2001 American Red Cross choking poster
and final thesis application

Redesigning the Choking Poster

Third Step

The use of clear language is very important for the public. The design firm Siegel & Gale explained this approach in an article called *Good Form* in the 1981 publication of Print magazine, volume 35. The techniques mentioned include the use of a personal writing tone, simplified language, and shortened sentences. This designer changed the 2001 poster's text based on these suggestions, and also tried to reduce redundancy. Redundancy was one of the biggest textual problems in the 2001 poster because the unnecessary repetition of words distracts the reader's concentration.

Fourth Step

This designer changed all realistic photographic images in the 2001 poster to simplified illustrations, and tried to include a minimum number of lines in each illustration. Also, by including graphical indicators, such as arrows and spot lights, this designer tried to focus the attention of the viewer to important areas of information. Additionally, by using the same background color in each group of illustrations, this designer tried to make each category within the poster intuitively obvious. This should help readers more easily follow the steps.

Overall Redesign Concept

This designer focused on creating a new choking poster based on the results of the four case studies. Using user-friendly organization, simplified texts, and effective illustrations, this designer successfully applied the core ideas of this thesis to the new choking poster. In addition, this designer appropriately applied other elements such as a warm gray background color and generous margins so important visual information was more prominent and therefore easier for the viewer to see.
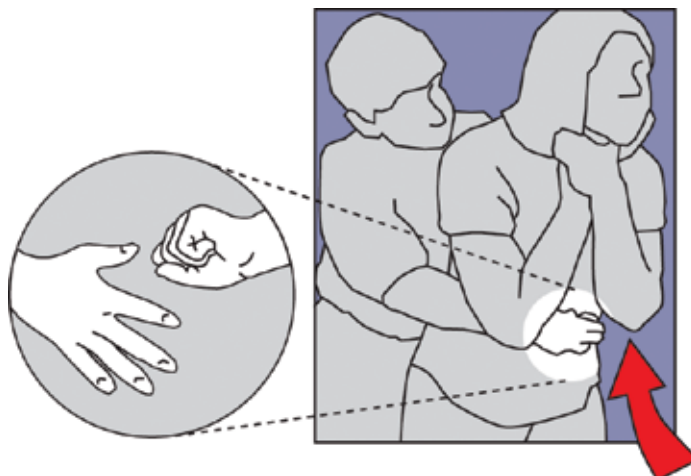
Comparison between the realistic photographic image and the simplified illustration

Version 1 / Final Application

Main Redesign Points
· Visually dividing conscious
  and unconscious groups
· Removing unnecessary decorations
· Changing category order
  (adults first and infants last)
· Reducing the number of different
  typefaces and sizes

First prototype of the final application; finished size 11 X 20 inches

Version 2 / Final Application

Main Redesign Points
- Changing photographic images to illustrations with graphic indicators
- Using more legible and understandable typography and language
- Giving more emphasis to conscious and unconscious groups and to each process
- Adjusting the compositional structure (layout of texts and images)
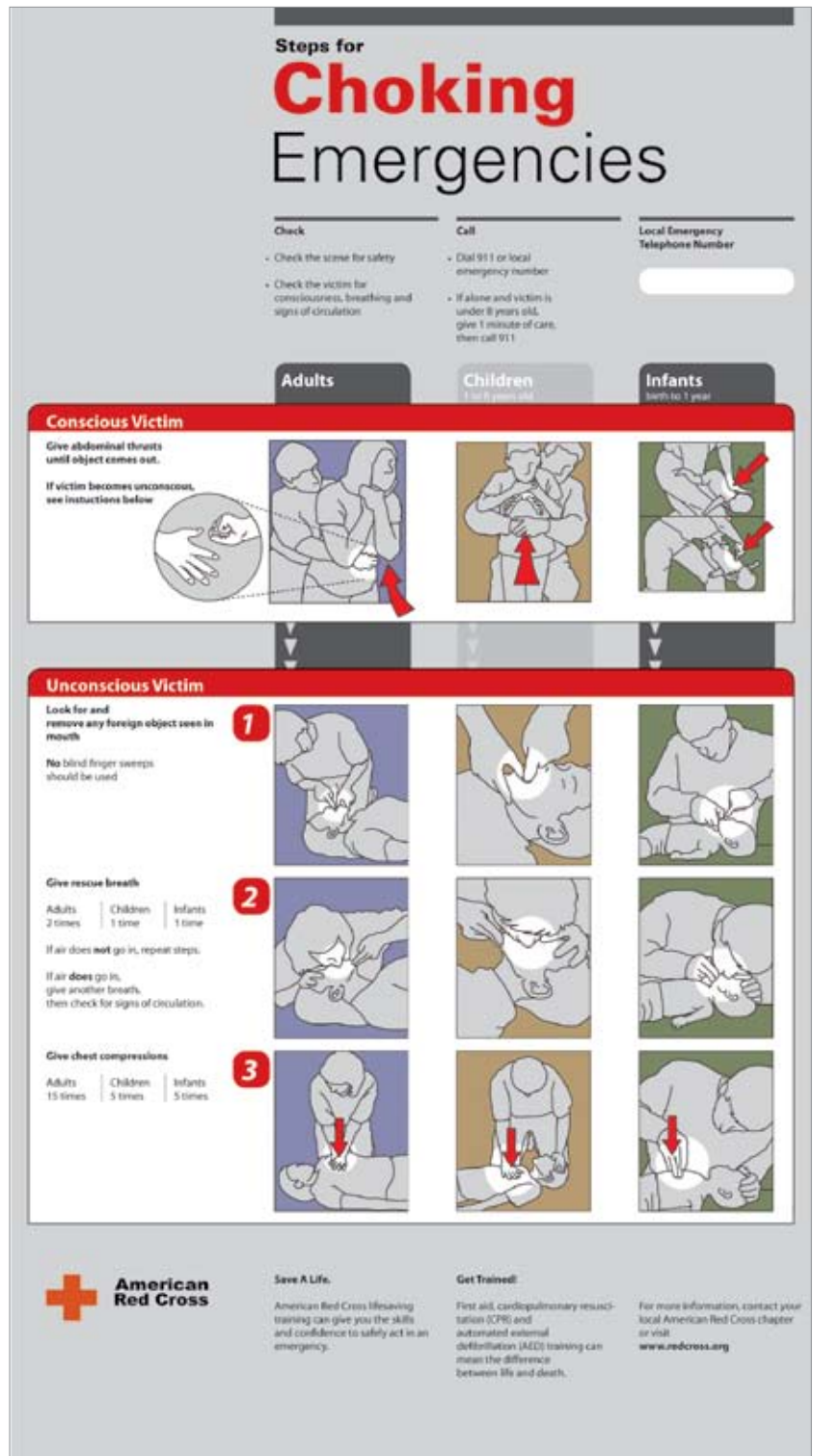
Second prototype of the final application; finished size 11 X 20 inches

Version 3 / Final Application

Main Redesign Points
- Simplifying language to be more efficient and immediately clear ('Steps for' versus 'What to do for')
- Removing boxes around numbers for each step (reducing the emphasis on the numbers gives more attention to the mail section titles: conscious and unconscious victims)
- Consistent use of the three colors connects the three sections (adults, children, infants) with their corresponding verbal directions and sequence of images

Third prototype of the final application; finished size 11 X 20 inches

Color Schemes / Final Application

Main Redesign Points
This color scheme consists of background colors (white, gray, red) and three distinct section colors (purple, tan, green). Red is the dominant color to emphasize and associate the main poster title (Choking) with the two main categories (conscious and unconscious victim), and directional arrows in the images. The goal was to develop three colors with similar value, but distinct hues and a system of colors that would be effective with the background colors (white, gray, red).
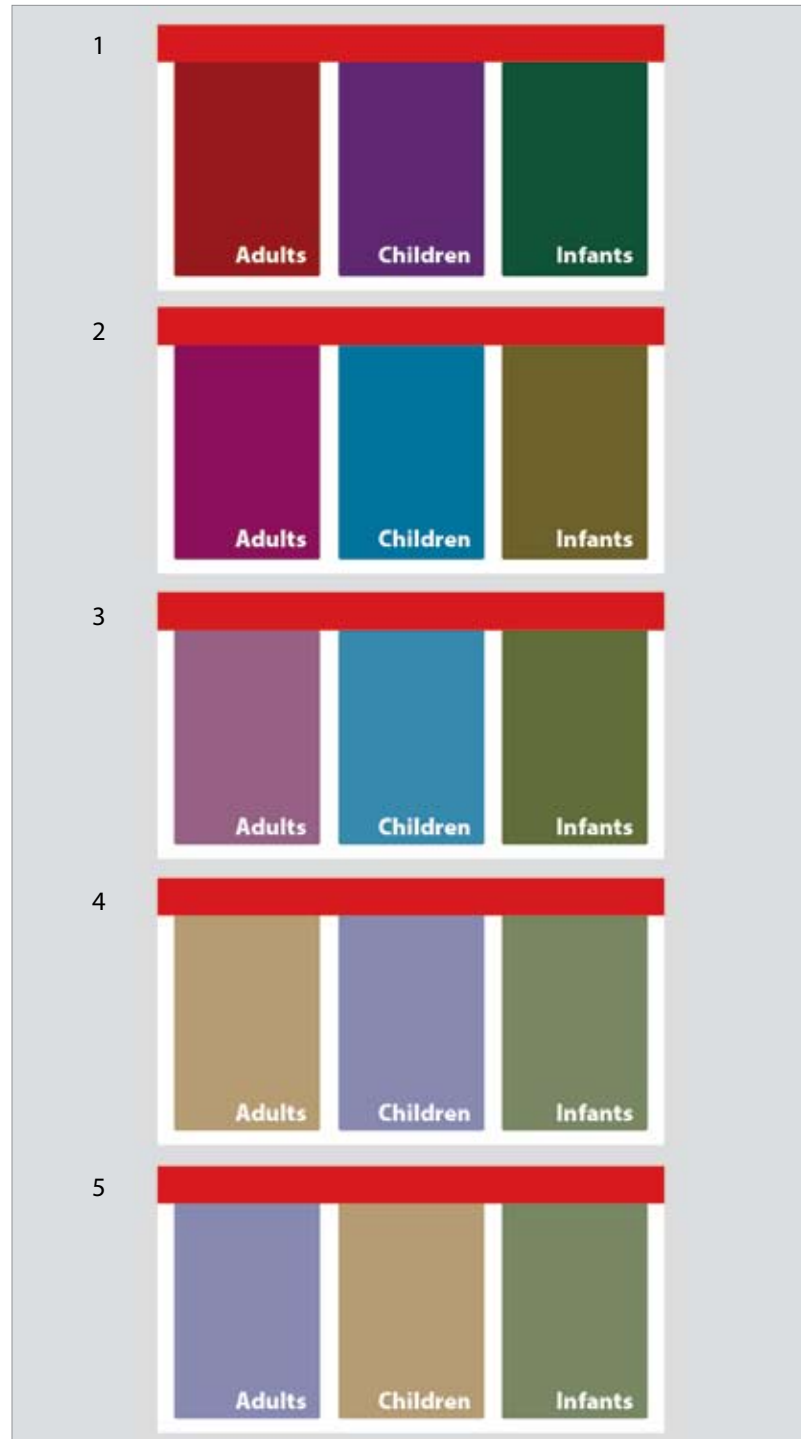
Five color schemes considered;
color scheme 5 was chosen for the final application

Final Selected Application

Main Redesign Points
- Using more familiar language ('Check' versus 'Check Situation')
- Reorganizing text elements to more clearly reveal the hierarchy of information
- Adding colors based on the color scheme shown on page 48

Please see an enlarged version in Appendix 2; finished size 11 X 20 inches

MFA Thesis Exhibition

The exhibition from April 1st to April 15th in the RIT Bevier Gallery was a chance to display this thesis project to the public.

This thesis exhibition consisted of four panels: title, thesis definition, case studies and evaluation, and thesis implementation. The title panel was used to attract the attention of the audience, using a hand drawn illustration. In the title panel, this designer depicted a thinking designer, using concise line drawings so that the viewers would focus more on the thinking or decision-making suggested by the drawings, thereby placing emphasis on the importance of concept development. Also, this designer used complex curly lines as the background of the title text, which conveys how much designers should understand and think about users' stressful situations. Half of the second panel briefly presented an introduction of this thesis including concept, mission and goals, scope, and bibliography. The second half of the second panel presented four different case studies and their evaluations based on graphical elements and analysis. Each case study represented what kinds of stressful situations are being examined; Unfamiliar content, Message complexity, Time pressure, and Crisis situation. The panel used appropriate images in the title space of each category, so viewers would intuitively recognize what each section meant. The last half of the third panel introduced the methods of evaluation and possible design applications.

**MFA Thesis Exhibition/
RIT Bevier Gallery**

MFA Thesis Exhibition Panels 1

Please see enlarged version of panels in Appendix 1; finished size 88 X 33 inches

MFA Thesis Exhibition Panels 2

Please see enlarged version of panels in Appendix 1; finished size 88 X 33 inches

About the Final Survey

A survey was prepared to evaluate the new choking poster that was developed as a final design application for this thesis. The survey involved having respondents compare the new choking poster with the 2001 version of the American Red Cross choking poster, and answer the survey questions. The survey form consists of four sections: language, illustration, organization, and overall observations. Each section has a five-point ranking system: excellent, good, fair, poor, and don't know. A comments section is included for each question.

The surveys were completed at the American Red Cross and Kodak offices in Rochester, NY. These two groups were chosen because many of those involved are specialists in a specific design field such as graphic design, industrial design, and human factors design, or are specialists in performing and educating others in the Heimlich maneuver and CPR. Those who filled out the survey were not informed of what the designer changed and why the changes were made. In other words, these surveys were filled out by impartial users.

Survey Form

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☐	☐	☐	☐
	Specific comments?					

Result of Survey

Most of the surveys resulted in positive responses. Twenty-nine people completed the surveys which evaluated four sections; language, illustration, content organization, and overall observation. This designer summarized the results of the survey for the final thesis application:

- 53 answers were 'excellent'   46%

- 48 answers were 'good'   41%

- 14 answers were 'fair'   12%

- 1 answer was 'poor'   1%

- The 'don't know' category did not receive any answers.

According to the summary information, most people, even the American Red Cross staff, agreed that the new poster was better for reading in elevated stressful situations than the most recent American Red Cross choking poster. They suggested other solutions and possible ideas for improvement. All of the surveys are included in Appendix 3.

In the three categories (language, illustration, and organization), the survey shows that the redesigning of content organization was the most improved section for the reader. Of the three sections, illustration was the section most in need for improvement. It could have been improved by making the illustrations 3-dimensional, adding graphic indicators, and adding numbers for each step. Another area of suggestion (which was already an existing concern) dealt with which information is more important, age or process, and also which reading direction is more appropriate, left to right, or up to down.

	Excellent	Good	Fair	Poor	Don't Know
Language	12	14	3	0	0
Illustration	9	14	6	0	0
Content Organization	19	7	2	1	0
Overall Observation	13	13	3	0	0

Matrix of total number of answers

This graduate thesis project examined the importance of information design in the context of problems where stressful situations can compromise the function of design solutions to communicate messages clearly and effectively. By investigating previous case studies, several fundamental design principles were identified and employed in a final application to evaluate the potential of these principles to help improve users' ability to access and successfully comprehend visual communication delivered under stressful situations. A survey of professional designers substantiated the effectiveness of the final thesis application, a redesign of the 2001 American Red Cross choking poster. As the thesis project continued to progress, great satisfaction was derived in achieving three specific thesis goals:

· Definition of information and information design

· Identification of stressful situations

· Development of specific design requirements
  for addressing stressful situations

This designer defined four different factors that contribute to elevated stress: Unfamiliar content, Message complexity, Time pressure, and Crisis situations. Defining these four factors of stress was necessary to understand difficulties users encounter when trying to read messages under stressful situations. The classification of information as Property, Principle, Procedure, and Process was used to narrow the focus to a more manageable exploration. The case studies examined were limited to kinds of information in the Procedure and Process categories – logical, sequential steps in a process over time.

After more fully understanding the scope of different kinds of stressful situations and what kinds of information need to be communicated, and with the aid of the past successful case studies, appropriate design directions became clear.

Briefly, specific kinds of design solutions consistently performed best under certain stressful situations. For example, the use of legible typography and generous negative space were good strategies for making unfamiliar content more accessible. Use of simple language and a personal tone was benefitted complex message situations. More logical and better organized compositions improved ease of reading and helped users understand potentially life-saving information needed under time-pressured circumstances.

After analyzing the design solutions of the case studies, it became clear that information design problems are prone to having all four factors that contribute to elevated stress (Unfamiliar content, Message complexity, Time pressure, and Crisis situations) occurring simultaneously. Developing a vocabulary and a set of design considerations led to an organized strategy for addressing information design problems where users face kinds of stress that can inhibit the successful transmission of crucial visual communication.

The findings of this thesis contribute positively to the field of graphic design and information design in particular. By helping fellow designers better recognize the kinds of stress experienced by users of design, and by providing strong recommendations of strategies to achieve more effective solutions, this kind of highly functional design can have a positive impact in peoples' daily lives. Critical information that must be easily read, understood and acted upon needs to be held to an even higher standard of excellence when stress factors are present.

Terms	Definitions
Alignment	Arrangement or position in a straight line or in parallel lines. Optical alignment is always more important than measurable alignment.
Brainstorming	A method of shared problem solving in which all members of a group spontaneously contribute ideas. And, a similar process undertaken by a person to solve a problem by rapidly generating a variety of possible solutions. (Dictionary.com)
Cognitive Friction	It is the resistance encountered by a human intellect when it engages with a complex system of rules that change as the problem permutes. (The Inmates are Running the Asylum P.21)
Comparison tests	These are often performed at many stages during and after the development of a product to specifically compare one alternative to another on specified measures. (www.bsu.edu)
Crisis	An emotionally stressful event or traumatic change in a person's life.
Flush-left, Flush-right	Even or aligned on the left edge or the right edge of the column, the opposite side remaining deliberately uneven.
Information	Information is used to caution, inform, explain, direct, clarify, distinguish, illuminate, illustrate and educate.
Information Design	Information design is concerned with understanding reader and user responses to written and visually presented information. These are utilitarian problem in which functional requirements of design are critical in making information understandable and accessible to user.
Legibility	Ability of a viewer to see or discern the message displayed.
Negative Space	Negative space is the area around and between the subject(s) of an image. It may be most evident when the space around a subject, and not the subject itself, forms an interesting or visually relevant shape, and such space is occasionally used to artistic effect as the 'real' subject of an image. (The Art of Looking Sideways P.370)
Margins	The space between elements on a page or spread.
Matrix	A rectangular array of quantities or expressions structured in rows and columns.
Readability	Ability of the viewer to comprehend or understand the message displayed.
Stress	An applied force or system of forces that tends to strain or deform a body. The resisting force set up in a body as a result of an externally applied force. A physical or psychological stimulus that can produce mental tension or physiological reactions that may lead to illness. (Dictionary.com)
Weight	The boldness of type, based on the thickness of the strokes of characters.

Books

Cognitive Psychology   Sternberg, Robert. 2002. *Cognitive Psychology*.
                                            Wadsworth Publishing; 3rd edition.

Information Anxiety 2   Wurman, Richard Saul. 2000. *Information Anxiety 2*.
                                            Pearson Education; 1st edition.

Information Design   Jacobson, Robert. 2000. *Information Design*.
                                            The MIT Press; 1st edition.

The Inmates Are   Cooper, Alan. 1999. *The Inmates Are Running the Asylum:*
Running the Asylum   *Why High Tech Products Drive Us Crazy and How To Restore The Sanity*.
                                            Sams; 1st edition.

Journals

Good Form   Siegel & Gale. 1981. *Good Form*.
                                            Print v.35 (January/February 1981) P.38-45.

Graphic Representation of   Yateendra, Joshi. 1996. *Graphic Representation of Railway Timetable:*
Railway Timetable   *A Case Study*. Information Design Journal v.8 P189 -191.

Websites

AIGA   American Institute of Graphic Arts
                                            http://www.aiga.org
                                            Date accessed: 2005

Election Design   AIGA design for democracy
                                            http://designfordemocracy.aiga.org
                                            Date accessed: 2004

Information Design for   http://www.washington.edu/webguides/design.class/index.html
the World Wide Web   Date accessed: 2004

The Gallery of Stick-Figure   http://www.cs.utexas.edu/users/tbone/warningsigns/index.html
Warning Signs   Date accessed: 2004

Understanding USA   http://www.understandingusa.com
                                            Date accessed: 2004

Thesis Exhibition Panels

Final Poster Application

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2005
April

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐

Specific comments? *Red Cross Training emphasizes Check Call Care which should carry over to adjunct materials*

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☒	☐	☐	☐	☐

Specific comments? *Highlighting positioning is very good.*

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☒	☐	☐	☐

Specific comments? *The column comparison is a good presentation, but again should follow training as done in a class*

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐

Specific comments? *As a choking emergency poster it is well laid out and the colors used are excellent.*

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2005
April

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐

Specific comments?

Need check, Call, Care as m our Course – Call 9-1-1 Should be more Bold

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☒	☐	☐	☐

Specific comments?

Grey human beings –harder to stay w/ what to do in reality. Stats show student more likely to act in real situation with real people pictured.

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☒	☐	☐	☐

Specific comments?

Having columns to compare Adult/Infant/child gives better organized view of differences.

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☒	☐	☐	☐	☐

Specific comments?

Great Job! Bottom section great for Brand Identity + focus). Thank you

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2005
April

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐

Specific comments? *RedCross instructs Check, Call, Care + needs emphasis on poster*

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☐	☒	☐	☐

Specific comments? *highlighting of skill is good – but research has shown picturing real victim is more effective*

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☐	☐	☐	☐

Specific comments? *Like the organization – very effective & easier to follow*

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐

Specific comments? *I particularly like the coloring of the poster and the texts along the bottom.*

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2005
April

**Please answer the following questions
by checking the appropriate box.**

Language

How clear is the text in
the new poster to understand?

Excellent	Good	Fair	Poor	Don't know
☒	☐	☐	☐	☐

Specific comments?

*Very nicely done with shorten information
well defined grid and structure of composition.*

Illustration

How well do the illustrations explain
each instruction?

Excellent	Good	Fair	Poor	Don't know
☐	☒	☐	☐	☐

Specific comments?

*Compare to the previous poster, the new
illustration looks clear and simplified.
But it could easy to ~~focus~~ loose focus
Because of the lack of color.*

**Content
Organization**

How well does this new poster
organize information?

Excellent	Good	Fair	Poor	Don't know
☒	☐	☐	☐	☐

Specific comments?

*Emphasizing each victim situation is
one of the most powerful advantages.*

Overall

How do you rate this new poster?

Excellent	Good	Fair	Poor	Don't know
☒	☐	☐	☐	☐

Specific comments?

*Excellent layed out.
Good bold red title.*

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐

Specific comments?

Widths of some paragraphs are not wide enough, with rivers between words and sections. Hierarchy is good.

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☒	☐	☐	☐	☐

Specific comments?

Very well done + ambiguous characters help make the poster more accessible.

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☒	☐	☐	☐

Specific comments?

Breakdown of important sections is very clear w/ color + location. Text placement is a little difficult to follow.

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐

Specific comments?

Fits a professional look + feel — illustrations are great! Text and typography is killing me. Bolding is a bit much, coupled with short line widths. Strange amount of negative space at upper left not mirrored elsewhere. Very well rendered though + are well thought out! Good stuff!

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☑	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☑	☐	☐	☐
	Specific comments?					

Need to explain more. For example, add more components to explain the steps.

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☑	☐	☐	☐	☐
	Specific comments?					

But, hard to map the text into illustrations.

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☑	☐	☐	☐
	Specific comments?					

Need to emphasize the differences between ages.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☑	☐	☐	☐	☐

Specific comments? _Good choice of Fonts & Sizes to emphasis the simplicity & clarity of the Instructions_

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☑	☐	☐	☐	☐

Specific comments?
- highlighting circle is useful to focus the important action, and focal points
- clear, clean
- red arrows show direction of the movement well

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☑	☐	☐	☐	☐

Specific comments?
- color code for: adults, children & infants, well organized layout
- clear titles, easy to follow
- under emergency, but I do like the old poster marking out step 1, 2, 3 directly on illustrations

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☑	☐	☐	☐	☐

Specific comments? _very well done, good color combination, clean instruction_

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

Language   How clear is the text in
the new poster to understand?

Excellent	Good	Fair	Poor	Don't know
☑	☐	☐	☐	☐

Specific comments?

the texts are much easier to read
Old one doesn't show easy way to read and
not organized at all.

Illustration   How well do the illustrations explain
each instruction?

Excellent	Good	Fair	Poor	Don't know
☐	☑	☐	☐	☐

Specific comments?

Some of picture explain more detail
than illustration, but most of illustration
make me to understand easily.

**Content
Organization**   How well does this new poster
organize information?

Excellent	Good	Fair	Poor	Don't know
☑	☐	☐	☐	☐

Specific comments?

Vertical color way is very good
Horizontal age category is very good.
easy to read both ways.

Overall   How do you rate this new poster?

Excellent	Good	Fair	Poor	Don't know
☑	☐	☐	☐	☐

Specific comments?

Overall design is very clean and nice.
I like to see some more intuitive illust
It is very well organized. Good.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☑	☐	☐	☐	☐

Specific comments?

MUCH EASIER TO READ THROUGH ENTIRE PAGE. ALIGNMENT IS NICE. THE LARGE TITLE TELLS ME EXACTLY WHAT THIS POSTER IS ABOUT. TAKES A FEW SECONDS ON OLD POSTER TO FIND "CHOKING."

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☑	☐	☐	☐

Specific comments?

MUCH BETTER THAN OLD. I STILL NEED TO GO BACK TO TEXT THOUGH. FOR EXAMPLE — THE FINGER IN MOUTH. WHY IS IT IN THERE.

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☑	☐	☐	☐	☐

Specific comments?

STATED IN LANGUAGE SECTION.

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☑	☐	☐	☐	☐

Specific comments?

VERY WELL ORGANIZED. IT IS VERY CLEAR WHEN LOOKING AT BOTH IMAGES + COPY AS TO HOW TO HELP THE VICTIM.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

Language	How clear is the text in the new poster to understand?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments? Increase size of step numerical value label as "Steps" ① ② ③

Illustration	How well do the illustrations explain each instruction?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments?
- Highlighted area very good.
- Is there a way to illustrate finger sweep with more detail? Perhaps a see through view of mouth?
- Image of women give mouth resuscitation not real clear in face detail.

Content Organization	How well does this new poster organize information?	Excellent ☒	Good ☐	Fair ☐	Poor ☐	Don't know ☐

Specific comments? Good use of color coding

Overall	How do you rate this new poster?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments?

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐

Specific comments?

Contrast between text and "Lilac, beige, Green" background could be higher (white text on these backgrounds is maybe too low contrast)
(Much better "readability" overall than current design)

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☒	☐	☐	☐

Specific comments?

I did not notice that top frame was back blows, bottom was chest blows.

"Inputs" step 1 showing chest blows & back blows top/bottom was difficult to interpret, maybe just 1 frame with "5x" overprinted on graphic??
(Or maybe the horizontal line splitting top+bottom frame could be thicker??)

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☐	☐	☐	☐

Specific comments?

I like the color coding of columns - much better visual organization than current are.

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐

Specific comments?

Better organized visually than current poster.

Graphic of 5 chest/5 back blows not clear enough.
① Didn't realize top frame = back blows
   bottom frame = chest blows
② Not clear that 5 repetitions recommended for front chest, 5 for back.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐

Specific comments?

No in Redcross poster it does not recommend abdominal thrusts for infants eventhough that is noted could be misunderstood.

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☒	☐	☐	☐	☐

Specific comments?

Clearer than photos

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☐	☐	☐	☐

Specific comments?

better organization

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☒	☒	☐	☐	☐

Specific comments?

exept need to make issue on infants noted about abit clearer

Completed Surveys

Young

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☒	☐	☐	☐
	Specific comments?	*On some the illustration maybe more face detail (Infant) to show face up or down.*				

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☐	☒	☐	☐
	Specific comments?	*Maybe "unconscious victim" steps number them so people know to read down instead of across.*				

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐
	Specific comments?	*Is far simplier than beginning Poster*				

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☐	☒	☐	☐

Specific comments? *The # of breathes/compressions should be better linked with the images*

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☐	☒	☐	☐

Specific comments? *photos work better / maybe some shading to show 3D?*

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☒	☐	☐	☐

Specific comments?

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☐	☒	☐	☐

Specific comments?

The only difference between adults and child is # of breaths, compressions this is NOT clear, consider more prominent placement

example ↗ [15]

Better organization of info.

Images do not communicate as well.

The grey background and muted earth tones all kind of blend together and look muddy.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐

Specific comments?

I like the text—it is consolidated from the original. However, in the original "Check" & "Call" stand out much better than "Check Situation" & "Consider Victim's Age."

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☐	☒	☐	☐

Specific comments?

For some of the drawings it is a little hard to understand what is being depicted because of the line drawings, especially for Conscious Infant. It takes me time to decipher the line drawings, where it doesn't with the photos.

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☐	☐	☐	☐

Specific comments?

In the new poster I really like how the conscious/unconscious sections are organized - this makes more sense to me. With the unconscious section, I am not sure that it is good to have the steps vertical - in English people read left to right.

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐

Specific comments?

Like 1,2,3 steps in the original poster -- this would especially help with the vertical steps. Ideally - I would suggest making poster horizontal to utilize the new organizational method (which I like) and still be able to have the steps go left to right to follow the natural reading pattern in English. I also suggest either more detailed drawings or photographs.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

Language

How clear is the text in
the new poster to understand?

Excellent	Good	Fair	Poor	Don't know
☐	☐	☑	☐	☐

Specific comments?

Black text in the beginning is kind of small
I's placement made me think each
group column had to correspnd with each
age group (for a second... which could
be a deadly second).

Illustration

How well do the illustrations explain
each instruction?

Excellent	Good	Fair	Poor	Don't know
☐	☐	☑	☐	☐

Specific comments?

Too small. For the unconscious it's just the same 3 steps
but the different pictures makes it look all
complicated. However, it looks like the infant
chest compression step is different (uses fingers, not palm)

Content Organization

How well does this new poster
organize information?

Excellent	Good	Fair	Poor	Don't know
☐	☐	☑	☐	☐

Specific comments?

It looks "pretty" but given the purpose of this
poster. Time is of the essence. It's still a lot to
take in. The vertical structure is harder to
read than the horizontal. It's 2nd nature to read
across than read down.

Overall

How do you rate this new poster?

Excellent	Good	Fair	Poor	Don't know
☐	☐	☑	☐	☐

Specific comments?

Looks slightly cleaner but doesn't look
that much easier to read than original.

Completed Surveys

Albino

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☐	☒	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☐	☐	☒	☐
	Specific comments?	I like the old poster				

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☐	☒	☐	☐
	Specific comments?					

Handwritten comments:

in an emergency people tent to read fast. it should be easy to follow

read ➔ easy, fast

NOT easy
       not Normal

1) Illustration are harder to understand in a case of an emergency

2) if the person is unconscious How you know what to do?

3) Adult
   children
   intants

Completed Surveys

Sabu

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☑	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☑	☐	☐	☐	☐
	Specific comments?					

I might suggest drawing more association between the infant illust & text for conscious victim. ex., color code text khaki green like that used in the illustration?

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☑	☐	☐	☐	☐
	Specific comments?					

The notury approach is a sig. improvement.

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☑	☐	☐	☐	☐
	Specific comments?					

At first, I thought the photos would be best but the illustration are very good & the 'spotlight' really helps to focus attention to critical areas.

Completed Surveys

Sorra
Tolok.

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☒	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☒	☐	☐	☐
	Specific comments?	*I like pictures of people vs illustrations Very clean.*				

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☐	☐	☐	☐
	Specific comments?	*Simple - Quickly get to instructions I need. Time is of essence & this is much quicker. like distinction of conscious vs unconscious Quickly identify Adult Child or Infant ⇒ Excellent*				

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☒	☐	☐	☐	☐
	Specific comments?	*like focus/highlight of area to focus on.*				

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☒	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☒	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☐	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐
	Specific comments?					

Completed Surveys

Amanda Greene

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☒	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☒	☐	☐	☐	☐
	Specific comments?					

The highlight on the specific area that the action is occuring helps lead my eye through the steps.

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☒	☐	☐	☐
	Specific comments?					

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☒	☐	☐	☐	☐
	Specific comments?					

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

Language   How clear is the text in the new poster to understand?

Excellent	Good	Fair	Poor	Don't know
☑	☐	☐	☐	☐

Specific comments?

_____

Illustration   How well do the illustrations explain each instruction?

Excellent	Good	Fair	Poor	Don't know
☐	☐	☑	☐	☐

Specific comments?

I THINK THE PHOTOS ARE MORE DIRECT.

Content Organization   How well does this new poster organize information?

Excellent	Good	Fair	Poor	Don't know
☑	☐	☐	☐	☐

Specific comments?

_____

Overall   How do you rate this new poster?

Excellent	Good	Fair	Poor	Don't know
☐	☑	☐	☐	☐

Specific comments?

_____

Completed Surveys

4.

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

Language How clear is the text in the new poster to understand?

Excellent ☐ Good ☒ Fair ☐ Poor ☐ Don't know ☐

Specific comments? A BIT SMALL

Illustration How well do the illustrations explain each instruction?

Excellent ☐ Good ☒ Fair ☐ Poor ☐ Don't know ☐

Specific comments? SINGLE LINE-WEIGHTS SOMETIMES MAKE IMG MUDDY (COUR COULD BE ANOTHER SOLUTION) * NICE USE OF WHITE CIRCLES TO HIGHLIGHT

Content Organization How well does this new poster organize information?

Excellent ☒ Good ☐ Fair ☐ Poor ☐ Don't know ☐

Specific comments?

Overall How do you rate this new poster?

Excellent ☒ Good ☐ Fair ☐ Poor ☐ Don't know ☐

Specific comments? WISH I HAD A COPY.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

Language	How clear is the text in the new poster to understand?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments? _____

Illustration	How well do the illustrations explain each instruction?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments? _____

Content Organization	How well does this new poster organize information?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments? _So much information to communicate this helps since it is organized_

Overall	How do you rate this new poster?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments? _____

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☑	☐	☐	☐

Specific comments?
"New" vs "old"
Conscious vs. unconscious is much better

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☑	☐	☐	☐

Specific comments?
Show hand placement much better on new display

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☐	☑	☐	☐	☐

Specific comments?
Colors are good + sections are better

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☑	☐	☐	☐

Specific comments?
Better organized !!!

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☐	☐	☒	☐	☐

Specific comments?

— Spelling of "unconscious" in top section
— font is rather difficult to read — thick letters that are small

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☒	☐	☐	☐

Specific comments?

Not really sure what the arrows mean in the top section

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☒	☐ different	☐	☐	☐

Specific comments?

Use of background colors for each population is helpful

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☐	☒	☐	☐	☐

Specific comments?

With a change in font to make it more readable, I'd rate it excellent.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

		Excellent	Good	Fair	Poor	Don't know
Language	How clear is the text in the new poster to understand?	☒	☒	☐	☐	☐

Specific comments?

The new poster definetly is better organize - the text is mostly in one column to read.

Minor point: the sentences: Do not use a finger sweep → make only the word not bold for emphasis. the rest of the sentence in plain type.

		Excellent	Good	Fair	Poor	Don't know
Illustration	How well do the illustrations explain each instruction?	☐	☒	☐	☐	☐

Specific comments?

-Consider illustrating the "seeing of a foreign object" with a red dotted line (like the red arrows)

- Much better layout, good color coding
- I must say the photographs convey a bit more detail that is more comforting to follow over illustrations. + Showing the rib cage as a guide to positioning the hands makes illustrations more powerful.

		Excellent	Good	Fair	Poor	Don't know
Content Organization	How well does this new poster organize information?	☑	☐	☐	☐	☐

Specific comments?

Emphasize the red cross.org URL at the bottom - underline or bold too -

		Excellent	Good	Fair	Poor	Don't know
Overall	How do you rate this new poster?	☑	☐	☐	☐	☐

Specific comments?

Much better overall.
- Consider a red band around the Local emergency field for emphasis.

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

**Please answer the following questions
by checking the appropriate box.**

Language	How clear is the text in the new poster to understand?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments? CONCERNED THAT INSTRUCTIONS FOR INFANT DO NOT PROVIDE ~~ARE NOT~~ GUIDANCE ON AMOUNT OF FORCE TO USE.

Illustration	How well do the illustrations explain each instruction?	Excellent ☒	Good ☐	Fair ☐	Poor ☐	Don't know ☐

Specific comments?

Content Organization	How well does this new poster organize information?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments? LINING UP INFO ABOVE COLUMNS MAKES THEM FIRST APPEAR AS IF THEY ARE RELATED TO EACH COLUMN (E.G. "CHECK SITUATION" WITH "ADULT" COLUMN). THE TOP INFORMATION (CHECK SITUATION) DOESN'T STAND OUT ENOUGH. RECOMMEND A NEW RED COLUMN TITLED "CHECK & CALL"

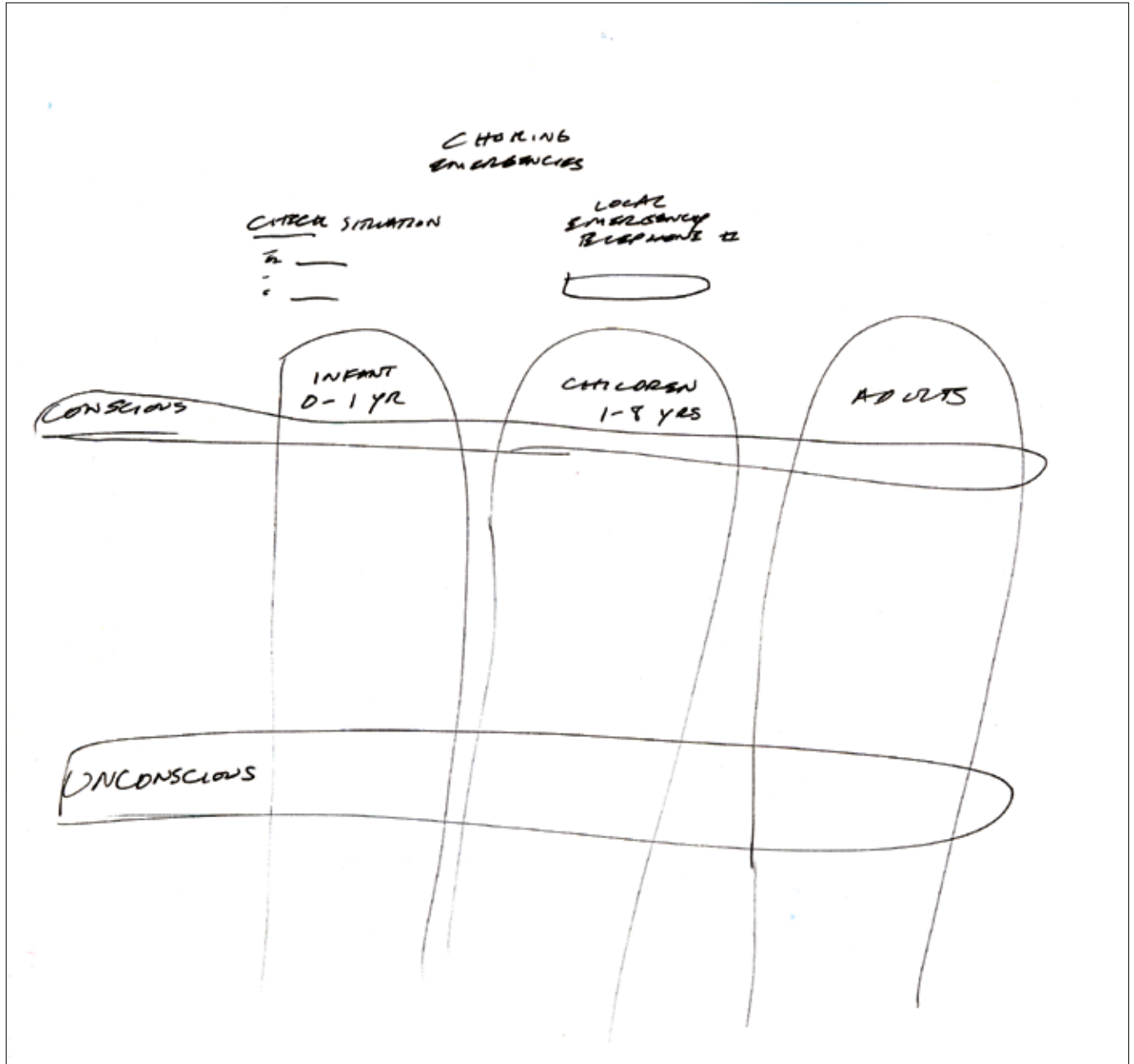| Overall	How do you rate this new poster?	Excellent ☐	Good ☒	Fair ☐	Poor ☐	Don't know ☐

Specific comments?

Completed Surveys

Survey of Choking Emergencies Poster

Spring 2006
March

Please answer the following questions by checking the appropriate box.

Language

How clear is the text in the new poster to understand?

Excellent	Good	Fair	Poor	Don't know
☐	●	☐	☐	☐

Specific comments?

I WOULD KEEP TOP TEXT CLOSER TO OLD SETUP (CHECK, CALL, CARE) WITH AGES LISTED BY CHILDREN & INFANTS

Illustration

How well do the illustrations explain each instruction?

Excellent	Good	Fair	Poor	Don't know
●	☐	☐	☐	☐

Specific comments?

ILLUSTRATIONS POINT OUT KEY AREAS BETTER THAN PHOTOS

Content Organization

How well does this new poster organize information?

Excellent	Good	Fair	Poor	Don't know
●	☐	☐	☐	☐

Specific comments?

INFORMATION IS LAID OUT WELL WITH CRITICAL INFO ~~ALSO~~ ON THE TOP & LEFT. I WOULD CONSIDER REVERSING ORDER TO INFANTS, CHILDREN, ADULTS.

Overall

How do you rate this new poster?

Excellent	Good	Fair	Poor	Don't know
●	☐	☐	☐	☐

Specific comments?

SOME LAYOUT COMMENTS ON THE BACK. THIS INFORMATION IS REALLY EASY TO READ

Completed Surveys

Comments on the back page of previous survey