Timing Considerations in Visual Communication

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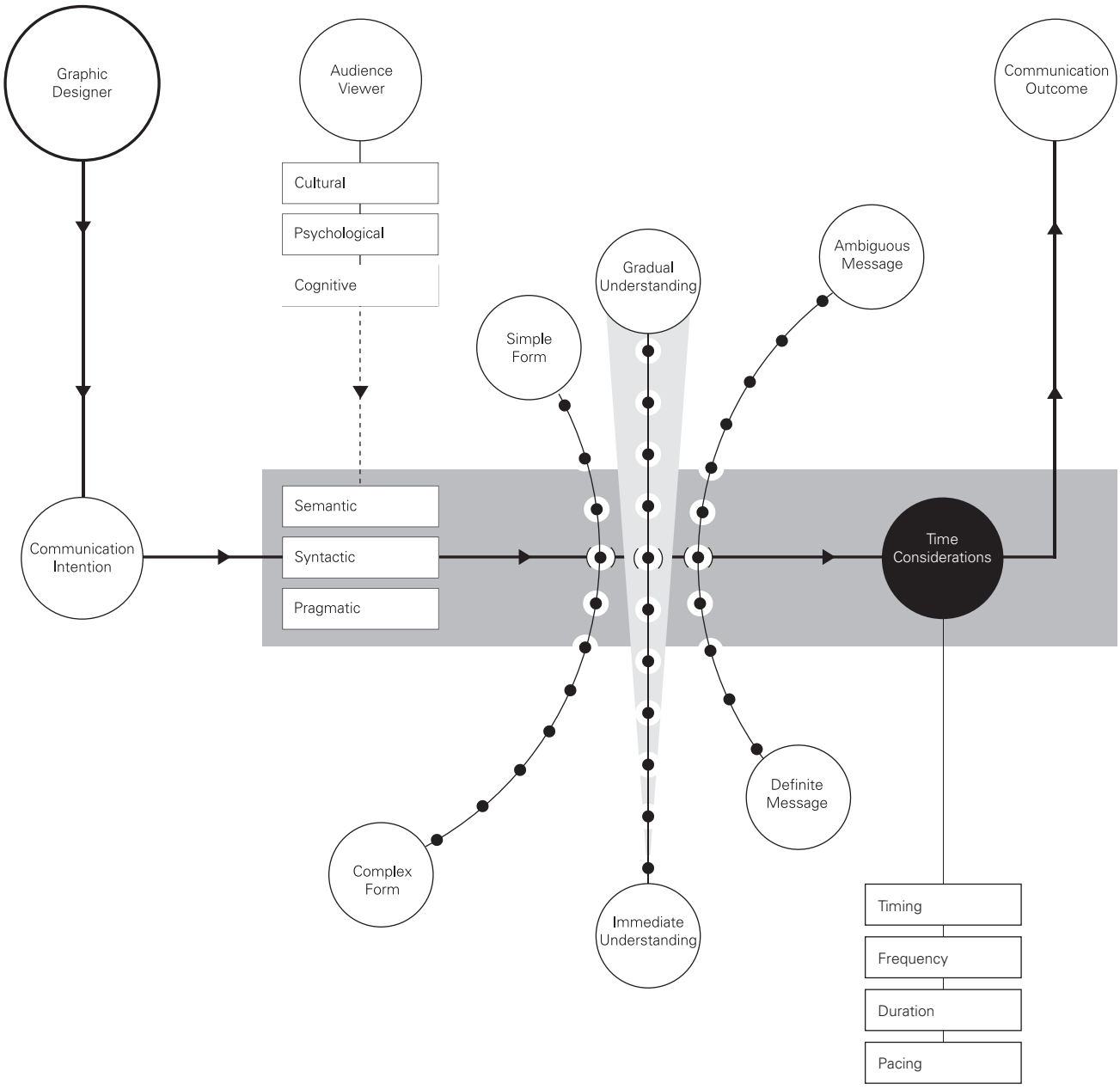
Abstract

Viewers are surrounded by visual stimuli on a daily basis. These visuals, which may have intriguing and/or exciting qualities, enable designers to propose effective design solutions that could have heightened impact on the viewer. With this in mind, some designers attempt to construct crystal-clear messages that are eye-catching and easily understood, while other designers try to deliver messages enveloped by a planned ambiguity, which offers diverse paths of comprehension. In the end, this intentional ambiguity can eventually guide viewers toward a single understanding.

Since ambiguity is an outcome of complex principles related to aesthetic and conceptual decision-making, often it is not immediately understood. However, in order to understand ambiguous messages, viewers are affected by both time, which is the indefinite continued progress of existence and actions in the past, present and future, and timing, which is the choice or control of when something should be exposed. Designers should be aware of the effect of time on perception in relation to ambiguous message-making, especially when immediate understanding is required. An example of this would be a solution related to information design such as the transportation map of the London Underground, in which the immediacy of communication could affect human lives.

This thesis study will focus specifically on time considerations as they impact the understanding of intentionally ambiguous messages. This thesis will also analyze the value of other time considerations such as frequency and duration. Understanding these aspects can potentially inform the integration of time considerations within the graphic design decision-making process.

Explanatory Diagram



Key Questions

1 What are the differences and similarities between time and timing?

2 How do variables of time and timing affect viewer perception? For example, will a viewer understand a message differently after one prolonged exposure versus multiple brief exposures?

3 Could time or timing change the degree of ambiguity in a message? How?

4 What are the differences and similarities between the terms *vague* and *ambiguous*?

5 What are the benefits of an initially ambiguous design solution?

6 Which visual factors affect audience perception? Why?

Associated Areas of Study

Graphic Design
Information Design
Book Design
Communication Studies
Marketing Studies
Psychology Studies
Music Theory
Film & Animation

Project Relevance and Importance

This study is relevant and important to graphic design because it seeks to offer solutions to improve the perception of an audience by considering the roles of time and timing. Understanding time components can help designers layer and transmit multiple levels of ambiguity in a single design solution. This will not only keep the viewer intrigued for a longer period of time to decode the ambiguous messages, but it may also give him/her a deeper understanding of the final message, while strengthening the relationship between the viewer and the message. Through this study the researcher may find additional uses of time and timing in the perception process, which could also affect audience comprehension.

Precedent A

Design for a Time of Weird Wild Change **By Larry Keeley**

Larry Keeley, a faculty member at the IIT Institute of Design in Chicago, is an acclaimed author, speaker, and teacher on the role of innovation in business. He has advised hundreds of clients on how to use rational, repeatable methods to achieve innovation effectiveness. Keeley's concepts in the article *Design for a Time of Weird Wild Change* are important to this thesis topic. The article clearly shows how time enhances the understanding of new messages. The article suggests the idea that time components' characteristics changed, and these change have affected the designer's duty over time. Time is the vehicle toward the message goal. It is the medium, which helps the target audience understand new concepts. Time is the vehicle in the direction of the audience's perception channels.

Design for a Time of Weird Wild Change is an important precedent for this thesis study because the author shows how time is an important component that has an impact on human comprehension. Delivering a clear, understandable message is a main graphic design goal. Keeley declares several important challenges for designers that matter deeply now and in the future.

First, the author claims that only a few designers understand the scale of modern business transformation, and the misunderstanding by the remaining majority may guide society into a negative situation. This misunderstanding creates a big gap between actual business and society's perception. A designer's duty is to create a smooth bridge between the two sides.

Next, designers often clash with time; they do not value it. How a particular situation may or may not affect the perception of the message must be considered since societies are struggling daily with this current era of constantly new businesses, media, markets, and design solutions. If designers have basic knowledge of the effects of time components on creating cohesive transition and developing the audience's ability to perceive, they will deliver better design solutions.

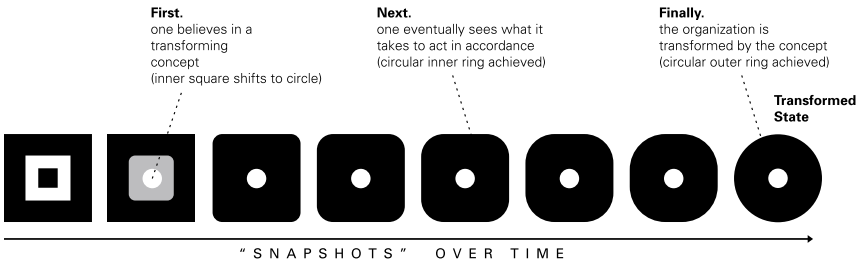
Precedent B

Mirror, Mirror. **By Peter Laundy**

Peter Laundy, adjunct professor in the graduate design planning program at the Institute of Design, Illinois Institute of Technology and Design Synthesis Lead, Doblin Inc., declares that the designer's responsibility is not to use the prototype (the early primary model) to help clients see things they could do, but to use the prototype to help clients see what their companies might become in the future. Time is an essential factor in this exploration. For example, when a designer creates a graphic design solution for a company, he has to propose not only the design solution, but also other prototypes or suggestions that can be applied to the design.

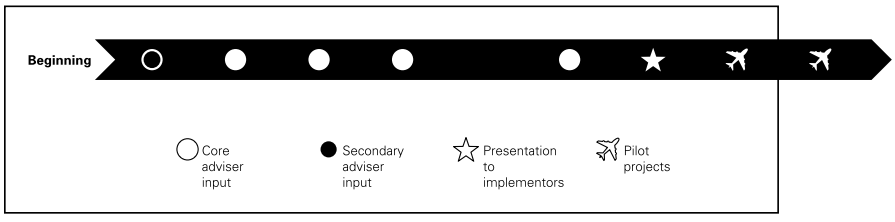
The author demonstrates the use of time from a different standpoint. He shows how time can be a medium for clients to understand new ideas and to adapt these ideas easily into their businesses by creating plans for each phase. In addition, this article includes interesting illustrations that demonstrate how the development can be achieved and how time can affect it in order to reach completion.

Figure 1.1



The illustration above shows the different phases that are needed over time in order to achieve the smooth transformation of a company from one stage to another more evolved state.

Figure 1.2



According to Mr. Laundy, Figure 1.2 shows the process of the prototype and how it affects the act of transforming ideas. The prototype works best in the early stages (before big decisions get made), helping executors move beyond abstractions to understand the solid implications of the changes they are contemplating.

Mirror, Mirror is a strong precedent for this thesis study, because it asserts that time is an essential factor to explore and, with the consideration of time components, the transformation of ideas can be more meaningful and understandable, and easier and more helpful to clients.

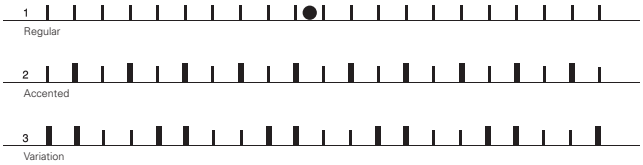
Precedent C

Visual Design System for Music Education **By Andrew Dennis Baker**

People who are new to the study of music lack an understanding of the musical elements such as dynamics, form, harmony, pitch, rhythm, tempo, texture, and timber. Andrew Baker, 2004 RIT Alum, Graphic Design MFA Program, developed a visual system that describes the fundamental principles and helps people visualize these elements to make them easier to understand.

Rhythm Beat

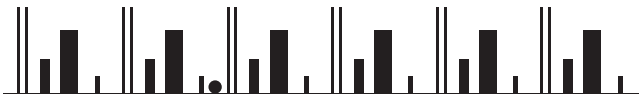
Figure 1.3



Rhythm beat, the beat found within music, is the regular recurring pattern which can be divided into equal units of time. Beats are basic units of time by which all notes are measured (Baker 51).

Rhythm Structure

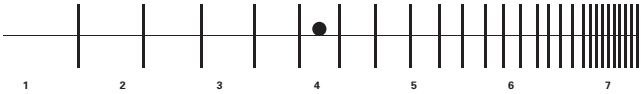
Figure 1.4



Rhythm structure is the combination of different note lengths in a place of music or a regulated succession of strong and weak elements. Rhythm is an important parameter of music structure; the other is pitch (Baker 52).

Tempo

Figure 1.5



Tempo is the musical speed or pacing of a musical composition. It may be indicated by a metronome designation that links a particular durational unit with a particular durational clock time or by a description of speed and gestural character (Baker 53).

Precedent C continued

Baker used Gestalt Principles, the psychological studies of proximity, similarity, continuity, figure/ground, closure, area, and isomorphic conclusions to translate musical elements to a visual language by using formal design elements (line, shape, color, and texture). *Visual Design System for Music Education* is a good example that translates intangible elements into visual design solutions.

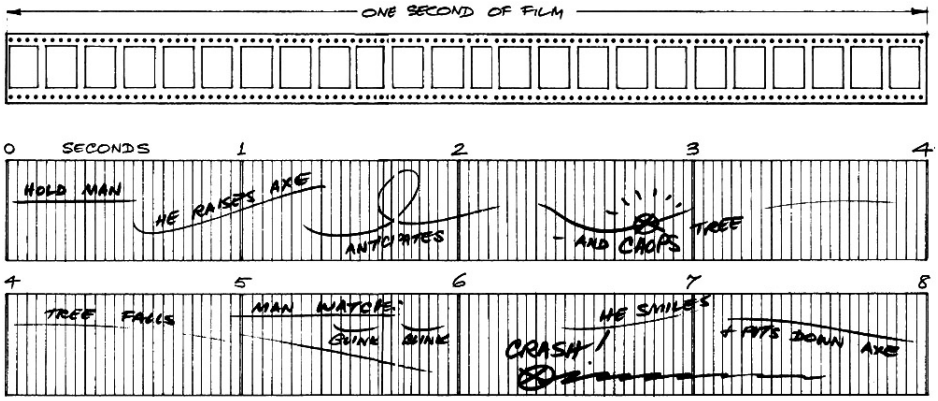
This precedent is important to this thesis since it clearly shows how Baker applies the Gestalt principles toward effective educational tools that explain the elements of music. This also asserts that the comprehension of a design solution can be increased with the use of Gestalt Principles. In addition, Baker gives a clear explanation of how time and timing are very important elements used in music. This information helped to distinguish the different time characteristics of timing, duration, frequency, rhythm, tempo and pacing for this thesis study. In the same way, musicians need to be aware of the necessary time components in order to play a cohesive music piece. Graphic designers benefit from understanding the necessary time characteristics in order to create effective design solutions.

Precedent D

Timing for Animation **by Harold Whitaker, John Halas**

In animation, time and timing are considered important elements in the animation field because they both are capable of giving additional meaning to movement. Time decisions must always be made before the start of production because the animator and director set the simplicity or complexity of the movement based on how much time is allowed for each scene. The more layers of complexity on the stage, the more time is needed to give the viewer a smooth comprehension.

Figure 1.6



The animator's job is to synthesize movement and to apply just the right amount of creative exaggeration to make the movement look natural (Whitaker 2002). In order to apply the right amount of creative exaggeration the given time period must be known in advance. The animator needs to decide upon the exact number of details within a decided number of frames.

In film and animation projects, the director sets all timing and acting based on the number of frames per second. Every 24 frames equate to one second of movie play. This is very important because the number of details per second changes the complexity of the details, which affects the level of perception.

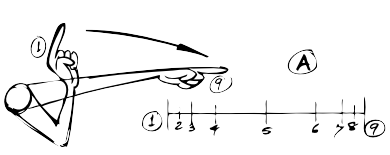
Precedent D continued

Complexity of Illustrations

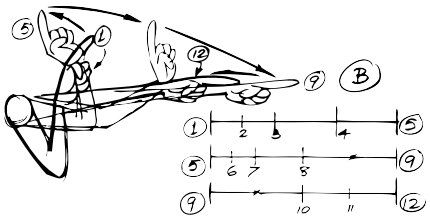
The basis of timing is the constant projector speed of 24 frames per second. If, therefore, something moves from A to B in 6 frames, the drawings required to do this are spaced twice as far apart as they would be if the object moved from A to B in 12 frames, assuming single frame animation is used in both cases. Therefore, for an animator, the timing of an action is the same as deciding the number and spacing of the drawings needed to make up the action (Whitaker 2002).

The following example shows how the number of frames affects the level of details in examples A and B. In diagram A, the hand movement changes in only two frames, whereas in diagram B the hand movement takes six frames to change.

Figure 1.7



Simple arm movement, accelerating at the beginning and decelerating at the end.



More aggressive movement. Drawings 1-5 anticipate the movement, the hand shoots out to far on 6-9, and returns to the final position on 10-12.

Timing for Animation is an important precedent for this thesis study, because it acknowledges that time components are central to the field of film and animation. It states the importance of setting the time for each scene, action, and movement before the crew starts producing, since the scene's complexity is determined by the given time. This formula has strong connections to this thesis study since the main goal for the graphic design solutions is to deliver the message that intends to be delivered in the right time based on the good design decision. However, the formula is still not clear for the majority of the designers. They are still looking further to understand which design decision helps a message to be perceived more quickly. This connection will be expanded in the synthesis section for more clarity and further understanding (see page 28).

Introduction

This thesis research identifies time concepts as aspects within the process of visual perception. In life, each person has unique experiences and backgrounds. For example, imagine a man, a woman, and a child looking at the same design solution. Each perceives it slightly differently, consciously perceiving and understanding different details of the whole. There are many reasons for these different levels of understanding. One of these reasons is related to time components. This thesis will focus on the concept that people experience different comprehensions of a single design solution as a result of the effect of different time components.

In order to create effective design solutions, designers should research the perceptual capabilities of their intended audience. How will the individual in the audience perceive information? For example, a book or a magazine can be perceived with the same viewer differently each time he has access to it. Otherwise, in the case of a permanent design solution, such as a billboard, the viewer perceives the design solution quickly, either driving a car or as a passenger in a car, and does not have easy access to it again.

Perception is shaped by such factors as individual experiences, different attitudes, a diverse and pluralistic society, economic status, ethnicity, and religious background. Even though this study will not focus on individual variables such as culture, psychology, and cognition, it will clarify time components as an influential medium to perception. The time component study includes the fundamental understanding of time, timing, duration, frequency, pacing, and tempo across disciplines, including music and animation, to guarantee a solid understanding of the time components.

Time is a needed component to absorb visual solutions. In addition, time specification has multiple attributes including timing and duration, and there are other elements affecting the understanding of time: frequency, tempo, and pacing.

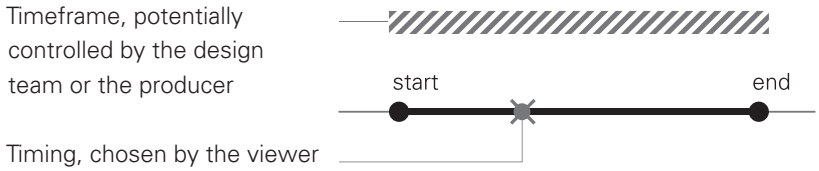
Time Components

In his book, *Timing for Animation*, Harold Whitaker illustrates how timing considerations are important in animation, since they are the most important elements that gives meaning to the movement of the characters. (Please see Synthesis page 28 for further explanation). Time and timing also ensure the continuation of the sequence. Animation movement is based on a still sequence of images. With the addition of time, those sequences will be transformed from still frames to smooth motion.

Timing

According to John Lasseter from Pixar, "The proper timing of an action establishes the idea behind the action as well as the audience's interpretation of it. Timing also reflects the weight and size of an object, conveys a character's thought process and emotions, and strengthens story points" (Whitaker 2002). As a consequence, timing is not only a point that causes when something happens, but also includes the choice or control of when something should be exposed in order to get the ideal implementation.

However, the decision of when something should be exposed is not always made by the production side; what happens is that the producers or design team controls the timeframe of when the audiences will perceive a design solution, and that is what called timing. Despite the fact that the viewers have the choice to either perceive the design solution or not during the timeframe.



Duration

Duration is a type of time mark, in which action continues over and over. It is also described as short or long periods. In addition, duration is usually measured by time such as seconds, minutes, hours, days, weeks, and years (see page 28).

Time Components *continued*

Frequency

Kevin Roberts mentions in his book, *Advertising Principles and Practice*, that in the field of marketing the number of times audiences have opportunities to be exposed to a media vehicle such as newspaper, magazine, radio station, television program, outdoor advertising location, edition of Yellow Pages, etc., in a specialized time span is known as frequency. Michael Miller, author of several successful music guides, establishes in his book *The Complete Idiot's Guide to Music Theory* the definition of frequency as the number of vibrations of multiple degrees of highness or lowness of a tone that occur simultaneously.

Consequently, frequency is the rate at which something is repeated over a particular period of time. An example would be repeating almost the same viewing experience over and over in front of an audience in a set amount of time. However, there are other time characteristics that affect frequency and duration as well, such as **pacing**, the consistent and continuous speed in motion (please see Synthesis page 27, Illustration B for further explanation).

In his book *Visual Design System for Music Education* Andrew Baker states that "Tempo may be indicated by a metronome designation that likens a particular duration unit with particular duration in clock time or by a description of speed and gestural character" (Baker 53). To clarify the difference between pacing and tempo, pacing could be the time it takes to cross a road (five minutes), while tempo could be the number of steps in those five minutes. Pacing could also be the time needed to finish reading a book, number of pages per hour, whereas tempo will be the number of reading sessions.

Graphic Design

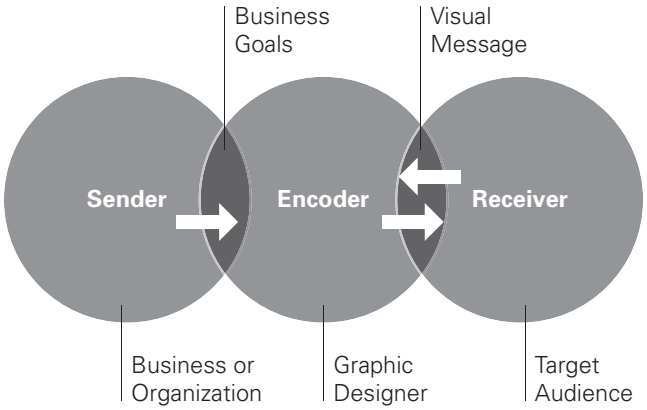
Graphic design is design that goes beyond the information to be read. Graphic design is visual communication, and involves many different types of audiences. It helps more people understand a given message and helps speed up learning. The ultimate design goal is to accommodate all of the target audience by finding the best design solution to a design problem. In addition, a good design solution can save time by presenting information for viewers in clear ways. Graphic design communicates and expresses itself through visual elements.

Graphic design is a creative process that combines art and technology to communicate ideas. The designer works with a variety of communication tools in order to convey a message from a client to a particular audience. The main tools are image and type (Poggenpohl 1993).

Graphic Design is Visual Communication

Visual communication combines speech, written language, and imagery into messages that are aesthetically pleasing, connect with the audience on intellectual and emotional levels, and provide them with pertinent information. When properly executed, graphic design identifies, informs, instructs, and even persuades viewers to do something. It is important that the sender of a message and the receiver speak the same visual language – in this manner, the designer acts as the interpreter and translator of messages. Reducing the amount of information that is visually portrayed creates a more concise and clutter-free design – the goal for all forms of communication (Hembree 14).

Figure 2.1



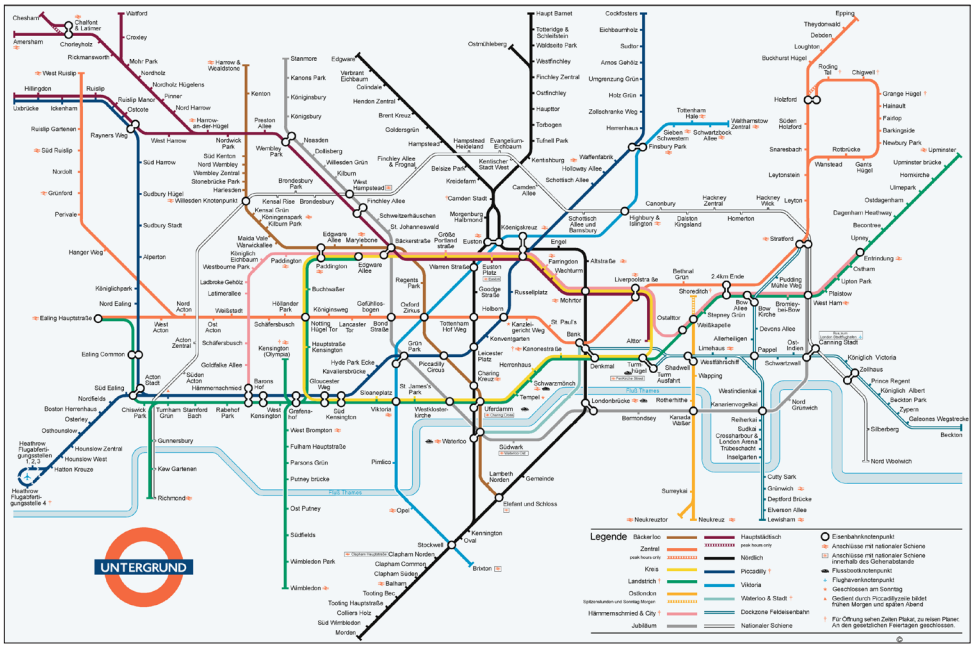
For effective visual communication to occur there must be a sender of a message, typically a client, and a receiver, such as the target audience. The designer encodes a visual message by translating the needs of the sender into images and content that connect with the receiver.

Information Design

Information Design is an area of graphic design concerned with visually organizing information when immediate understanding is required. For instance, a transportation map with multiple station stops contains complex data that can easily confuse a passenger. *The actual reason behind Information Design implies viewing the design problem in a special filter, disassembling it with analytical curiosity, and assembling it again in a simplified way with a feeling for precision and detail* (Schuller 2007).

Harry Beck designed the celebrated London Underground subway map in 1933. A guiding principle behind this design was delivering only the necessary information by reducing the map to a diagram of only straight and 30-degree angles. He simplified the complexities of London's transportation system into a clean, clear diagram. This information design solution provided necessary information for London train users that made it easy for train passengers to navigate the system.

Figure 2.2

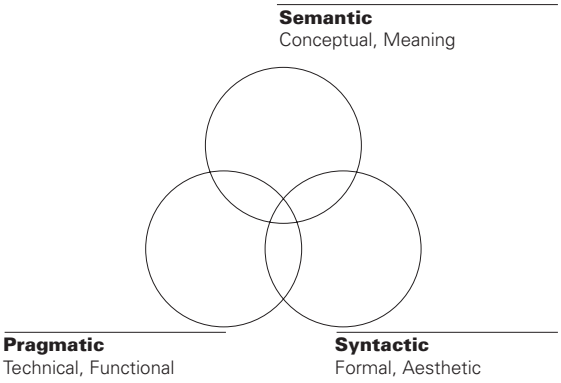


Beck's design was revolutionary and was quickly adopted by commuters because it was useful and met the needs of the users (Garland 19). The celebrated London Underground map is a great information design solution that contains complex information. The London Underground map has some unique design decisions which helps the user understand the map in a very short time period.

Designing a Message

Over the years, several RIT design professors adapted the semiotic model shown below, which offers a good structure for creating or analyzing graphic design solutions. This model has the objective purpose of evaluating the semantic, syntactic, and pragmatic components of a design problem. This semiotic model can also be used to evaluate the final design solution's success as compared to established goals.

Figure 2.3



Semantic	**Syntactic**	**Pragmatic**
Meaning	*Form*	*Ergonomics*
Concept	Composition	Accessibility
Content	Hierarchy	Environment
Hierarchy	Proportion	Human factors
Message	Balance	Legibility
Symbols		Lighting
Words	*Structure*	Visibility
Ideas	Grid system	
	Rhythm	*Production*
Perception	White space	Fabrication
Emotion		Materials
Gestalt	*Variables*	Tools
	Position	Processes
Communication	Size	
Accuracy	Shape	*Specification Schedule*
Clarity	Texture	Distribution
Appropriateness	Tone	Interaction
Integrity	Weight	Deadlines
Language	Color	Static, kinetic
Readability		Time-based

The semiotic model is important for this thesis, because it helps define the depth of the relationship between a design problem's goals and potential design decisions. In addition, the structure of this model serves as an outline for designers to organize, and even simplify, complex problems.

Gestalt Principles

Around 1900, German psychologists began to formulate concepts based on "pattern seeking." Gestalt means a configuration with properties not divergent from the sum of the individual parts. *In Gestalt theory, the whole of a visual image is different from and greater than the sum of its parts* (Kaufmann 8). Gestalt principles are based on human psychology and visual perception.

The dots have been arranged to form a directional symbol. The viewer can perceive each dot individually while the arrow is the dominant symbol (the resulting gestalt).

Gestalt principles provide opportunities for designers to evaluate the ultimate effectiveness of visual imagery. Designers should be familiar with Gestalt perceptual psychology and experiment with its exciting forms. For example, figure-ground relationships and the suggested principles of proximity, similarity, continuity, and closure are helpful tools for designers to control both unity and variety in their design. However, designers have to reach a balance between too much unity (boring and repetitive) or too much variety (chaotic and disconnected).

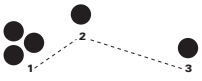
Gestalt Principles *continued*

Figure/Ground

Figure/Ground is the fundamental principle of perception. It allows the viewer to digest the design solution that gets the focus of attention, which is the figure, and distinguish the negative space or ground which is usually seen as further away from the figure (Schriver 313).

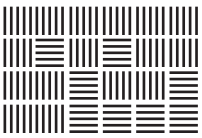
Proximity

Perceptual groupings are preferential according to the nearness of parts, thus visually closer parts form groups. For example, five bodyguards walking together draw more attention than a larger, scattered gathering of men.



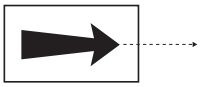
Similarity

Audiences see identical visual units as in groups, knowing that like objects are defined by shape, size, color, and direction. For example, a bird flying against the flock in the sky becomes immediately apparent.



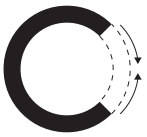
Continuity

Viewers are able to continuously perceive the edge of a shape or the movement of a sign. For example, an arrow in a wayfinding sign obtains the viewer's attention and their understanding continues beyond the design solution's physical edge.



Closure

Humans have a natural tendency to visually close gaps since actual closed shapes are more visually stable than open shapes. Viewers may see the letter O from the letter C because the human mind is capable of supplying the missing pieces in a composition.



Ambiguous Messages

In his book *Thinking, Problem Solving, Cognition*, Richard E. Mayer describes perceptually ambiguous visuals, and specifies how ambiguous visual messages were of special interest to the Gestaltists. He also mentions how artists have been fascinated by this perceptual fact. Perceptually ambiguous visuals are of special interest in the investigation of thinking because ambiguous design solutions exemplify the fact that sometimes the same perceptual input can lead to multiple levels of different representations. Gestaltists took this as suggesting that the mind was actively involved in interpreting the input.

On the other hand, in his book *Perception and Imaging,* Richard Zakia explains ambiguous messages as design solutions which can take on multiple meanings through the language, the actual wording, of the messages. Designers can play with words that have similar sounds but different meanings, such as made/maid, rain/reign, and board/bored. They can also develop it by the visual shape of words that have a similar look but different meanings, such as natural/neutral, angel/angle, and conservation/conversation.

Ambiguity extends to more than just words. It can also apply to visuals, to create one meaning or multiple layers of meaning. Planned ambiguity adds interest to the design solution, and can provide different levels of meaning during the process of perceiving a message over a period of time.

In this ambiguous figure (2.10), it is possible to see either a young woman or an old woman. It is a drawing, and if you examine it in detail it will probably be rather hard to decide what all of the different components represent in each of the interpretations. Nose, hat, feather, ear, etc. are identifiable. But your mind seems to be imposing these interpretations on the drawing rather than being compelled by the "perceptual evidence" (Schmidt 2005).

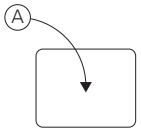
Figure 2.10

Rhetorical Operations

According to Zakia in his book *Perception and Imaging*, rhetoric is no longer limited to the art and study of language used in an effective and persuasive manner. Rhetorical operations go across the rational definition, which is related to the writing and speaking of words. Rhetoric deals with communication. It also can be useful when applied to graphic design problem solving (see examples on page 38).

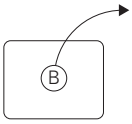
Addition

Addition refers to the introduction of a new visual element in a composition or visual statement, such as an advertisement. The elements can be words , color, texture, shape, form, line, parts of image, the interval between elements, and movement (Zakia 289).



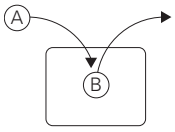
Subtraction

Subtraction is the opposite of repetition, so instead of adding elements into the design solution, designers take something away from the design solution. This affects the resulting visual communication. "Holding back or suppressing can give the picture an enigmatic quality and serve as invitation for the viewer to become more involved and participate in the forming of the statement (Zakia 296).



Substitution

Taking some element away from the design composition and replacing it with an entirely new element that adds to the value of the message.



Exchange

Changing positions between two or more existing elements in the design solution in order to emphasize the message and affect the communication outcome. *In an exchange, the elements in a visual statement are identical but inverted* (Zakia 307).

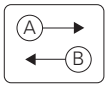


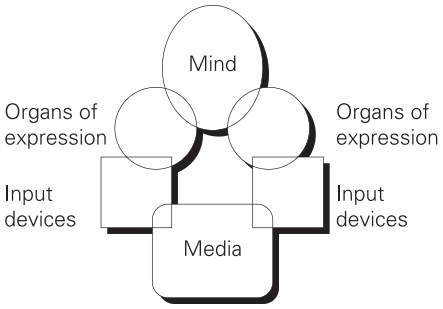
Figure 2.11

Perception

To create effective design solutions, graphic designers need to have an indepth knowledge of the perception abilities of the audience. Each viewer comes from a different background, which influences the way he/she looks, thinks, perceives, and interacts with the design solution. According to Mark von Wodtke in his book *Mind Over Media*, viewers have many channels of perception through their eyes, ears, tongue, nose, and skin. Moreover, people receive information in various ways, such as through observation, direct experience, and comprehension. The following two models from *Mind Over Media* show aspects of perception.

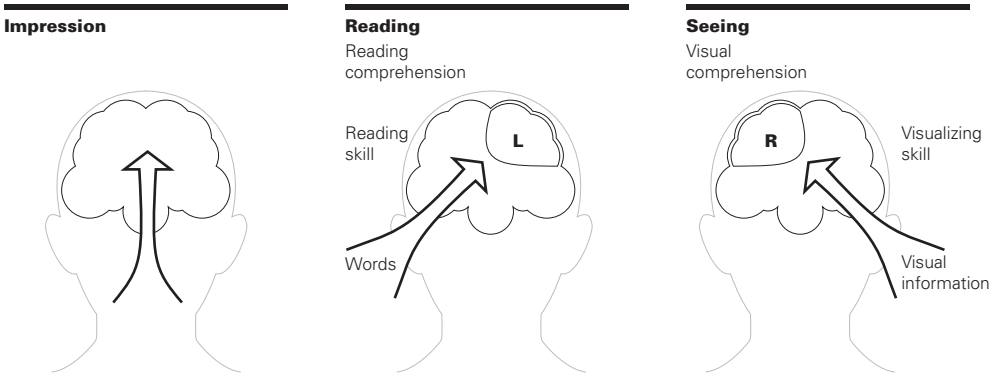
Figure 2.4

Channels of Perception



Organs for perception are subtle and, in a sense, invisible. These are capacities for seeing, hearing, smelling, tasting, and touching. Input devices are those means in which the form of the message is carried on, such as advertisements.

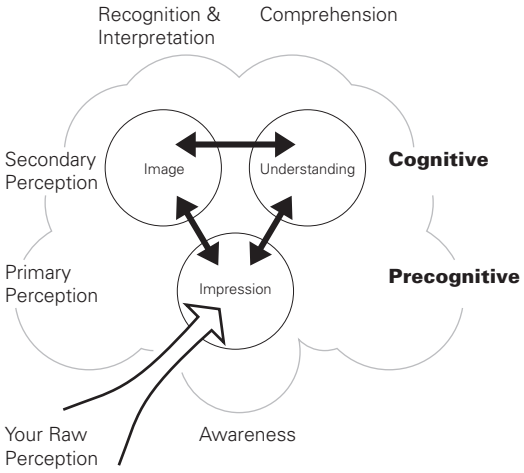
Figure 2.5



Perception *continued*

Figure 2.6

Levels of Perception



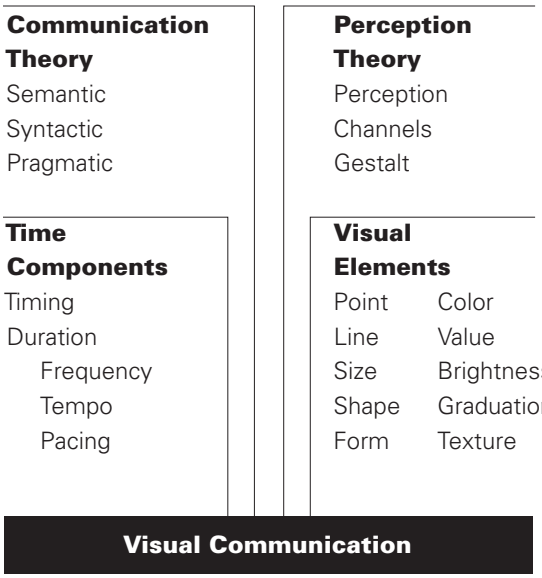
Viewers perceive information based on different levels of perception. According to Wodtke, perception happens in both *awareness,* the ability to be conscious to perceive and understand, and *comprehension,* the action of understanding. In addition, each channel of perception has primary perception (impressions) and secondary perception (images and understanding) levels.

Figure 2.7

Channel	Primary Perception	Secondary Perception	Comprehension
seeing	contrast, color	patterns, objects characters, numbers	recognition, words meanings
	distance	space	place, orientation
	motion	sequence	path or procedure
hearing	loudness, pitch	character, phonetics	calls, words
	reception	rhythm, tunes	music
sensing	temperature	hot/cold	comfort
	pressure	sharp/dull heavy/light	pain
	texture	rough/smooth hard/soft	
smelling	aroma	putrid/fragrant	associations
tasting	taste	sour/sweet/bitter	palatability
moving	balance	up/down	direction
	movement	moving/still	progression

Introduction

This thesis synthesis merges information, essentials and resources into a combined problem statement to further guide research and examination. The diagram below was constructed to create the most useful organizational structure for communicating the collected research. Communication theory, perception theory, and visual elements are used to express the effect of time components on visual communication.

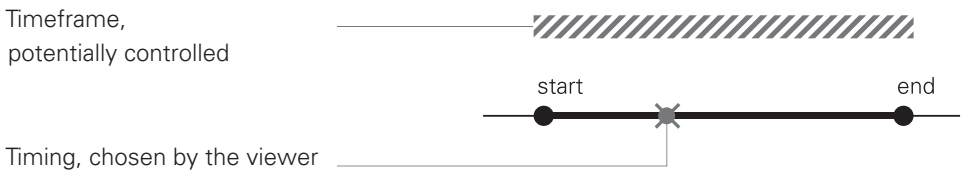


First, as expressed in the Research section on page 19, the semiotic model can be a useful evaluation tool to identify each of the three components: meaning, form, and use, to determine how well a design solution satisfies appropriate goals of the solution. This model provides a mechanism for not only generating, but also evaluating, a visual solution to clarify a complex idea. In addition, this thesis synthesizes aspects of each semantic, syntactic and pragmatic decision and selects some relevant elements from each to help analyze selected design solutions.

Secondly, visual elements such as point, line, shape, format, color, value, brightness, gradation, and texture are used to analyze and categorize the channels of perception, as described earlier on page 25, in which the primary and secondary perceptions help improve comprehension and understanding of the design solution through the different channels of perception.

Time Components

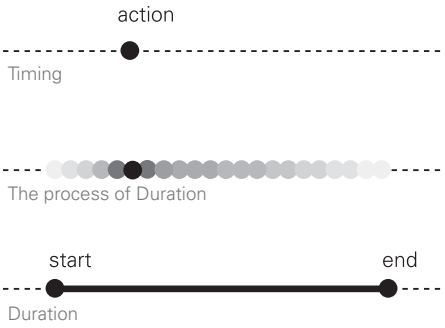
Time and timing are the main focus in this thesis study. *Time*, which is the indefinite continued progress of existence and actions in the past, present and future, and *timing*, which is the choice or control of when something should be exposed, are necessary components for the absorption of visual messages. Toward this aim, the following definitions summarize (on page 28) and analyze the different characteristics of the time components, and find relationships between time, timing, frequency, tempo, and pacing. In addition, time specification has multiple attributes including timing, which is not only a point designating when something happens in a timeframe, but also the choice or control of when something should be exposed in order to get the ideal implementation.



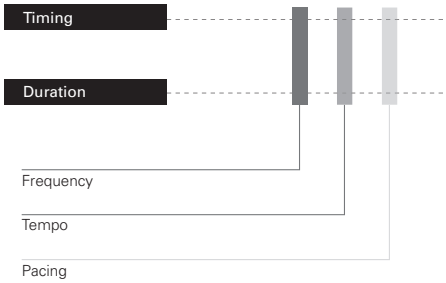
How are time components created?

Example A below clarifies each of three time components and the relationships between them. For example, timing (single action on a time line) is repeated over and over to create the duration. Every time component has a relationship with the other. Frequency, tempo, and pacing are working as filters for timing and duration, as is illustrated in example B, and the overlapping of each time component creates multiple differences .

Example A



Example B

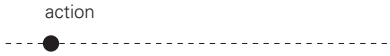


Time Components *continued*

Time Component Definitions

Timing

Timing is a point at which something happens, and the control over when something should be exposed in order to get the ideal implementation.

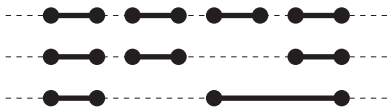


Duration

Duration is one type of designation in which an action continues over a period of time past, present, and future; it has start and end points. In addition, duration can be short or long in length.

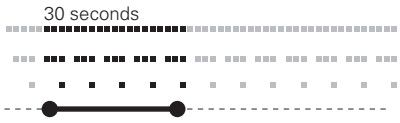
Frequency

Frequency is the amount of either regular or random repetition of a particular *duration* over a selected period of time.



Pacing

Pacing is the consistent and continuous speed in exposing, developing, and perceiving a graphic design solution. The speed of pacing is rated by an instrument, such as a clock, for measuring time.



Channels of Perception

How do time components affect visual communication?

As is delineated in the Research section, viewers have different levels of perception depending on how they understand the design solution. According to Van Wodtke, perception happens in both awareness and comprehension. In addition, each channel of perception has primary perceptions (impressions) and secondary perceptions (actual images and understanding).

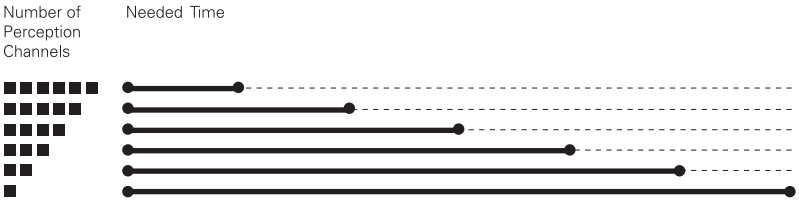
Channels of Perception

Sight	The perception of something using the visual sense.
Hearing	The perception of sound, made possible by vibratory changes in air pressure on the ear drums.
Touch	To feel or manipulate with the hands in order to contact or sense.
Smell	To use the sensitive nerves in the nose to assess aroma.
Taste	The sense that perceives the particular qualities of food by means of the sensory organs on the tongue (taste buds).
Movement	The act of changing location, position, or the way in which something moves.

More channels in use = Faster comprehension

Using multiple perception channels shortens the needed time to understand a message. Thus, each time a designer activates more channels of perception in their design solution by using visuals, sounds, textures, aromas, tastes, or actions the viewer understands the message faster because the message is perceived via different directions.

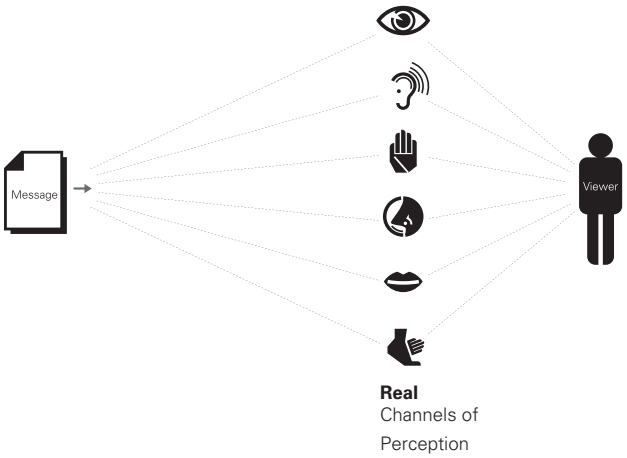
Impact of perception channels on amount of time needed to comprehend



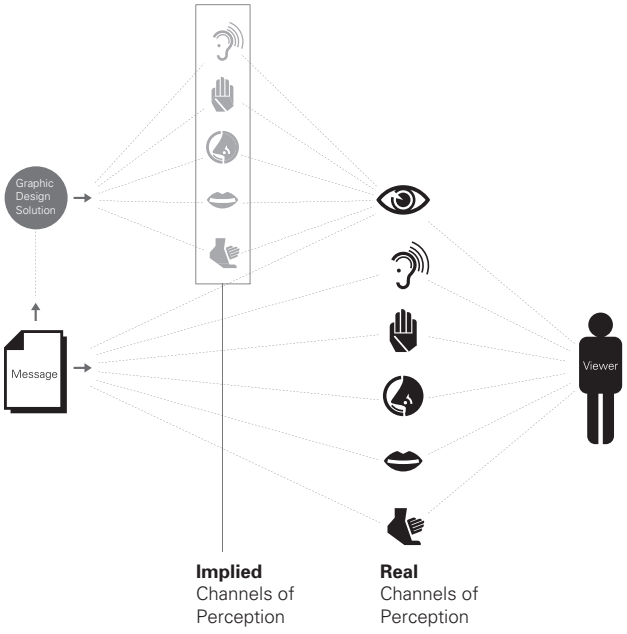
Channels of Perception *continued*

Channels of perception are divided into two groups: implied channels and real channels. The researcher found that most designed messages use visual elements that act as implied channels, such as line, shape, form, color, and texture. These visual elements are all filtered through the sense of sight, which is a real channel. The diagrams below show the processes of sending and perceiving both a non-visual message and a graphic design message.

The process of sending and perceiving a non-visual message



The process of sending and perceiving a graphic design message



The perception process involves elements divided into three groups:

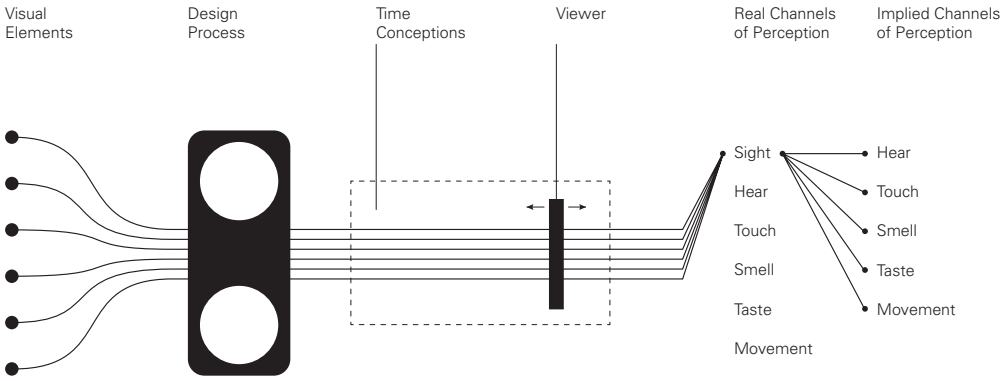
1 Elements controlled by the receiver, such as psychological, cultural, and cognitive, which assimilate comprehension.

2 Elements controlled by those responsible for message-making, including the sponsor, designers, and advertisers who manage the message's ambiguity level.

3 Media considerations such as type of media, placement of the composition, and exposure time.

Since this thesis focuses only on the time components and design decisions, the illustration below explains the process of designing and sending a graphic design solution.

The process of perception for a graphic design solution



The level of perception is based on the visual elements and is affected by the time components, which are involved in every perception process. These theories are synthesized into concept sketches that explain the relationship between the number of activated perception channels and the degree of immediate understanding.

Matrix A

Considering the perception process as explained on page 29, this matrix shows how activating perception channels shortens the time needed for the message to be perceived. Each time the designer uses more perception channels, the number of time components needed to understand the message decreases, and the comprehension becomes easier.

Design Solution

Perception Channels

Sight | Hearing | Touch | Smell | Taste | Movement

Marlboro Cigarettes. 1978
Neil McBain. Burnett Company, Inc.

real	cowboy
implied	softness, smoke, flavor

Heinz, Magazine color full page
Mike Straznickas; Sarah Block

real	jar tomato
implied	glass tomato, Heinz, Heinz, upside down bottle

Lace Sneakers Poster. 2004
Marcus Chwalczyk, Germany

real	soccer ball footprints sperm
implied	team supporter, soccer ball, race

Matrix A continued

Design Solution

Perception Channels

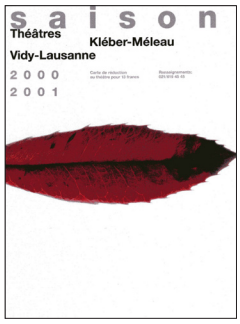
Sight | Hearing | Touch | Smell | Taste | Movement

Coca-Cola

Yan; Luke. Mother

real
- abstract color
- Coca-Cola
- Typography

implied
- raider
- cold
- sweetness
- Coca-Cola



Theater de Vidy-Lausanne

Werner Jeker, Les Ateliers du Nord

Switzerland

real
- leaf as lips

implied
- smoothness

FedEx
Federal Express

FedEx logo. 1994

Lindon Leader.

real
- white arrow

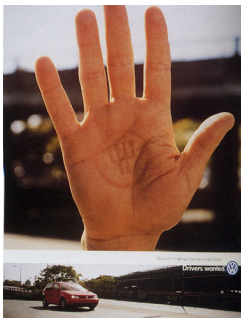
implied
- speed

Matrix A continued

Design Solution

Sudan Poster. 2000
Luba Lukora, USA

Human Rights Posters. 1989
UWE Loesche, Germany



Volkswagen of America Ad
Paul Renner; Arnold Communications

Perception Channels

Sight	Hearing	Touch	Smell	Taste	Movement
real: boy, hunger					
implied: boy crying		skin		healthy food	

Sight	Hearing	Touch	Smell	Taste	Movement
real: abstract shape, cow					
implied: cow					stand

Sight	Hearing	Touch	Smell	Taste	Movement
real: hand, impression mark, car					
implied: car		fun	friendship		speed

Matrix A continued

Design Solution

Perception Channels

Sight | Hearing | Touch | Smell | Taste | Movement

The Economist

Cosmo Campbell; Ian Grais

	Sight	Hearing	Touch	Smell	Taste	Movement
real	● boy, spider, hill					
implied			● typography			● climbing

Time Out

Michal Johnson

	Sight	Hearing	Touch	Smell	Taste	Movement
real	● egg, UK map					
implied		● fry	● hot	● hot		● flip

Museum Für Gestaltung Zurich,

Peter Moser; Velvet Creative

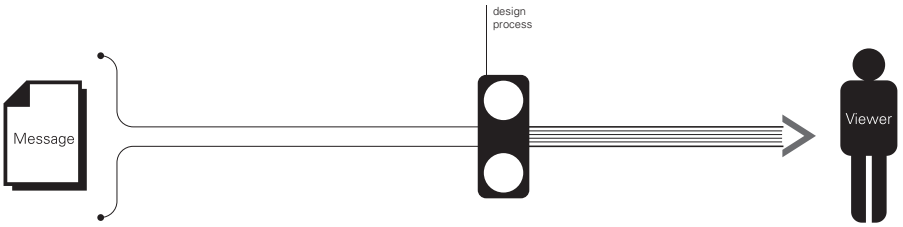
	Sight	Hearing	Touch	Smell	Taste	Movement
real	● face, text					
implied		● technology	● hand			● matrix

Ambiguous Messages

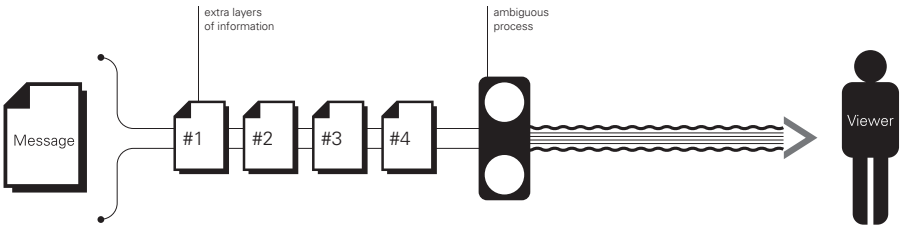
As mentioned on page 23 of the Research section, Richard Zakia explains in his book *Perception and Imaging* how an ambiguous message within a design solution can take on multiple meanings through language or visuals. Multiple layers of meaning or message keep the interest of the viewer and offer extra levels of information.

The illustration below shows the process of designing a simple design solution, which is delivered smoothly to the viewer to obtain clear understanding. This is unlike the process of designing an ambiguous message that transmits multiple levels of meaning, and requires extra effort to perceive and understand the intended message.

Clear Message Making



Ambiguous Message Making



Ambiguous Messages continued

An example of an ambiguous message is the visual identity symbol for FedEx, the logistics services company based in the United States and founded in 1971.

The original Federal Express logo designed by Richard Runyan in 1973

The new FedEx logo designed by Lindon Leader in 1994

In 1994, Federal Express chose to reflect a nickname, FedEx, in their new visual identity, incorporating an arrow symbol within the letters 'E' and 'x.' The new mark of FedEx is an example of how a symbol's evolution can occur through the process of planning for a design solution that involves multiple levels of ambiguity. With the simple typographic logo that reflects the name of the company and the extra layer of meaning indicating speed and precision, FedEx is considered one of the most successful visual identity symbols. It not only delivers a strong message, but also keeps the interest and holds an element of surprise for their audience every time they see a FedEx truck, box, or other application.

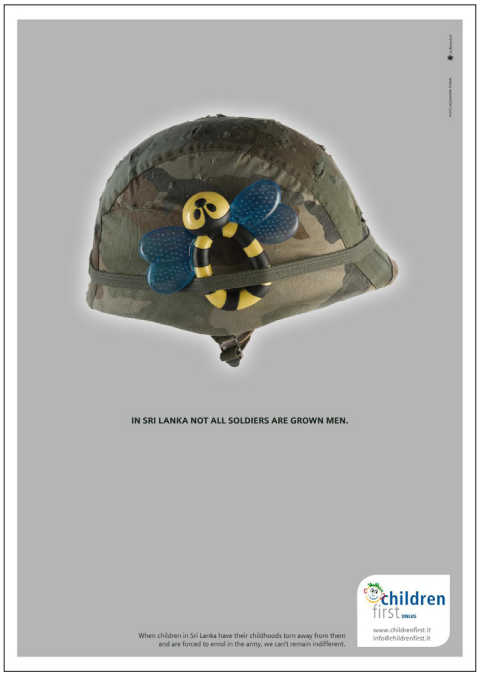
Examples of Rhetorical Operations

Rhetorical operations deal with communication. They are useful approaches from art and study of language that have been extended to visual communication to create meaningful complexity within graphic design solutions. Rhetoric operations are considered tools that can create ambiguity and keep the interest of the viewer for a longer period of time.

Addition

Addition refers to supplemental visuals that add to a design solution and create extra emphasis.

Museum Für Gestaltung Zurich, Switzerland.
Peter Moser; Velvet Creative,
Office GmbH. Lucerne, Switzerland.

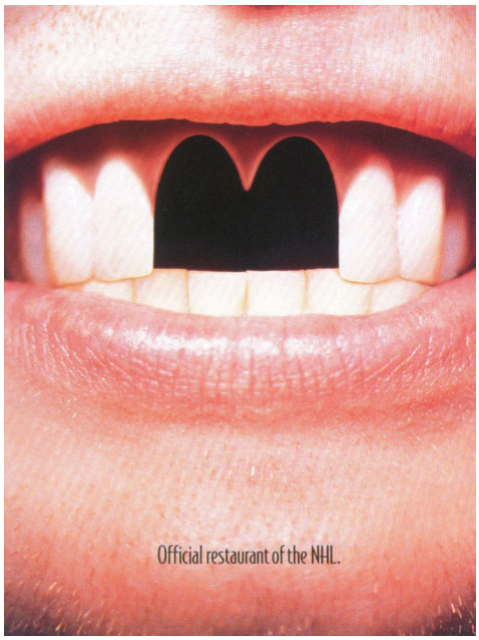


Children First Advertising.
Unbranded, Italy.

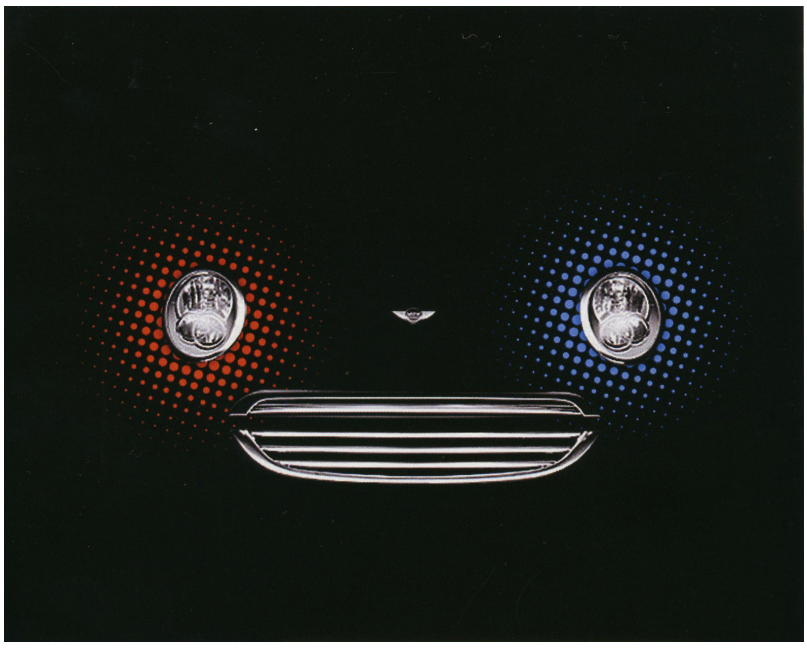
Examples of Rhetorical Operations *continued*

Subtraction

Subtraction is the opposite of addition. Instead of adding elements to the design solution, designers take something away to affect the resulting visual communication.



McDonald's Hockey Ad,
Chris Staples; Dean Lee.

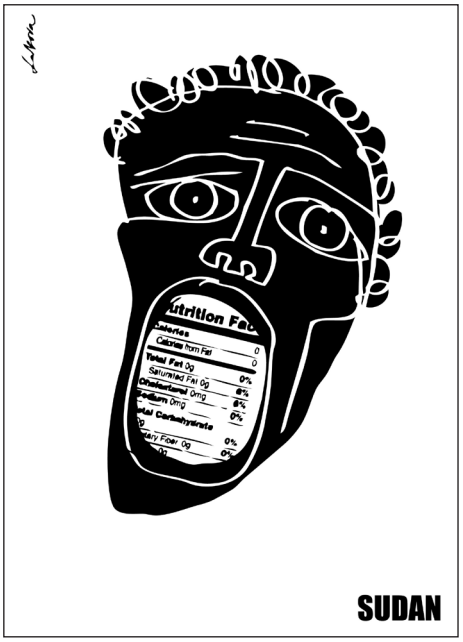


Mini BMW Ad,
Dom Murphy.

Examples of Rhetorical Operations *continued*

Substitution

Substitution is taking something away from the design solution and replacing it with an entirely new element that adds to the value of the message.



Sudan Poster 2000
Luba Lukora, USA

Lace Sneakers Poster 2004
Marcus Chwalczyk, Germany

Children First Advertising.
Unbranded, Italy.

Examples of Rhetorical Operations *continued*

Exchange

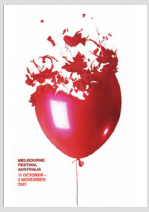
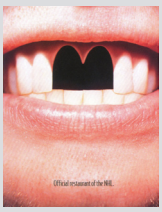
Instead of removing something from the design solution, exchange means changing positions between two or more existing elements to emphasize the message, and affect the resulting visual communication.

Unicef, More Education for Girls
Atakan Sevgi; Hakan Ertan. Saatchi & Saatchi, Istanbul

MASP Sãopaulo Museum of art.
Pedro Cappeletti. DM9 Publicidade, Sãopaulo.

Matrix B

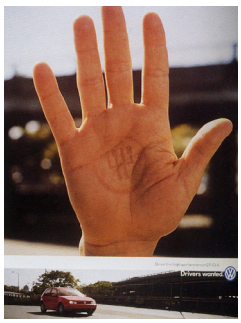
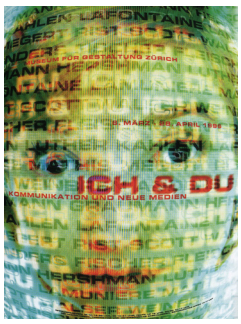
Integrating perception channels into a rhetorical operations matrix
This matrix cross references channels of perception (real and implied) with rhetorical operations by using the same design solutions as seen on Matrix A, page 32.

Perception Channels	**Rhetorical Operations**			
	Addition	Subtraction	Substitution	Exchange
real Sight				
implied Hearing				
Touch				
Smell				
Taste				
Movement				

Matrix C

This matrix explores the relationships between channels of perception, rhetorical operations, and Gestalt Principles.

● real
○ implied

	Perception Channels							Rhetorical Operations				Gestalt Principles			
	sight	hearing	touch	smell	taste	movement		exchange	substitution	subtraction	addition	closure	continuity	similarity	proximity
	●	○		○	○				●						●
	●	○				○			●			●	●	●	
	●	○	○								●			●	●
	●	○	○			○		●			●			●	●

Introduction

Initially, the design application requirement for this study was expressed by redesigning a set of printed applications for an existing company using the analysis findings in this thesis to improve the company's message. The researcher assessed which graphic elements are most useful for each application (such as stationary, signage, advertisements, billboards, and literature), considering the required time components for each application to be perceived and understood. The researcher shifted the concept from a commercial company toward a non-profit organization that would help improve selected worldwide issues, such as the health and education of children and their families. These kinds of issues need immediate action from people in today's societies in order to accept responsibility and provide help for broken communities.

Finding an issue for which the time components of duration and frequency have a different effects on comprehension of the intended message became a priority. Furthermore, the effects of these time components may yield multiple levels of understanding for one intended message. In addition, the application could include outside content that has the issue of time and needs to conveyed quickly. Issues pertaining social awareness are ones that are complex in nature, in need of help in a short timeframe, and require multiple layers of understanding. The committee suggested narrowing the selected problem range to find a specific outside content area that can have the advantage of designing an ambiguous message due to its complex significance. In the following process, all these factors contributed which issue was chosen, and which type of design application would most successfully convey the needed message.

The Broader Context

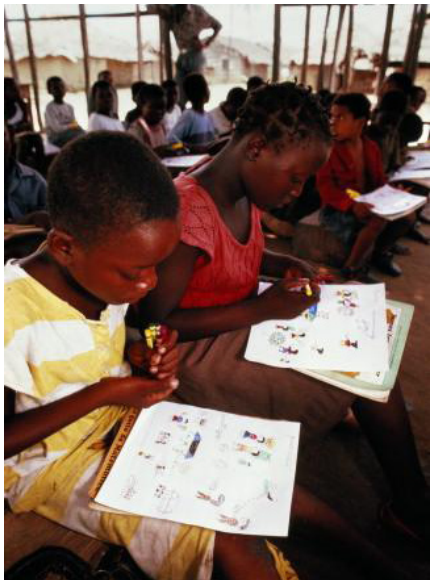
Education is an important factor in the stability of communities, societies, and nations. It furthers economic development, promotes employment, enhances the development and application of skills relevant to employment, and contributes to sustainable development. Educating children is key to ending the global cycle of poverty (Dubai Cares 2008).

Some Related Statistics

Approximately 120 million children in the world are still denied access to primary education. Of the children who do not attend school, 58% are girls (Dubai Cares 2008).

One in every three children in developing countries does not complete five years of primary education, the minimum required for achieving basic literacy (Unicef 2007).

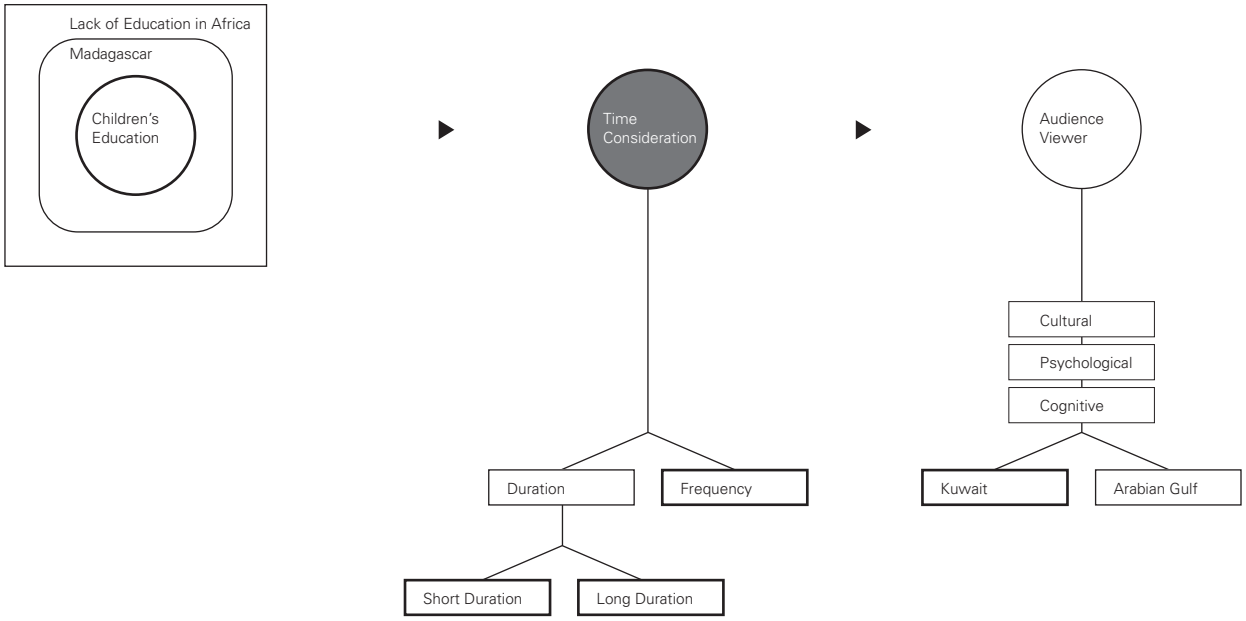
Over 50% of all African girls are not allowed to go to school and obtain an education (DirectAid 2007).



Millions of children living in poor countries around the world do not have access to education nor do they possess the knowledge to create a better future for themselves and others. Unfortunately, these children, without an access to education and the knowledge it imparts, will remain in the dark. In addition, children without access to education are more vulnerable because they do not have other possible ways to advance themselves in the future (Dubai Cares 2008).

Selected Outside Content

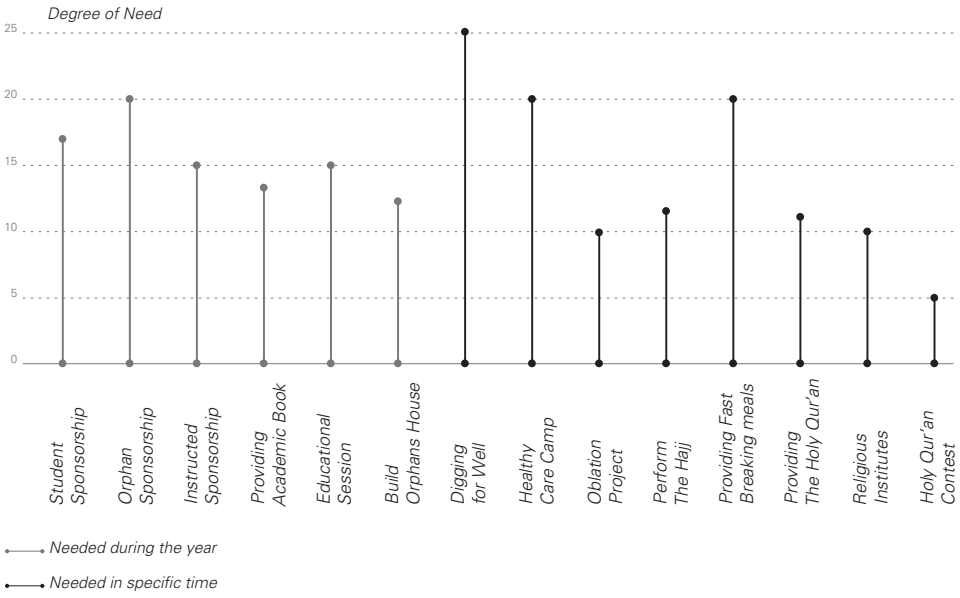
Children's education in Madagascar was chosen as the outside content of the final design application for this thesis study. Research related to the basic needs for children's education was gathered and analyzed. The effective use of time components will be explored to create a range of different levels of understanding to prompt either immediate or gradual reactions from the viewing public.



Information Source

DirectAid, a non-profit organization located in Kuwait, has active projects in Africa, including Madagascar. This organization had analyses of selected projects including those related to the issues of children's education. The following chart shows the degree of need for specific issues in Madagascar.

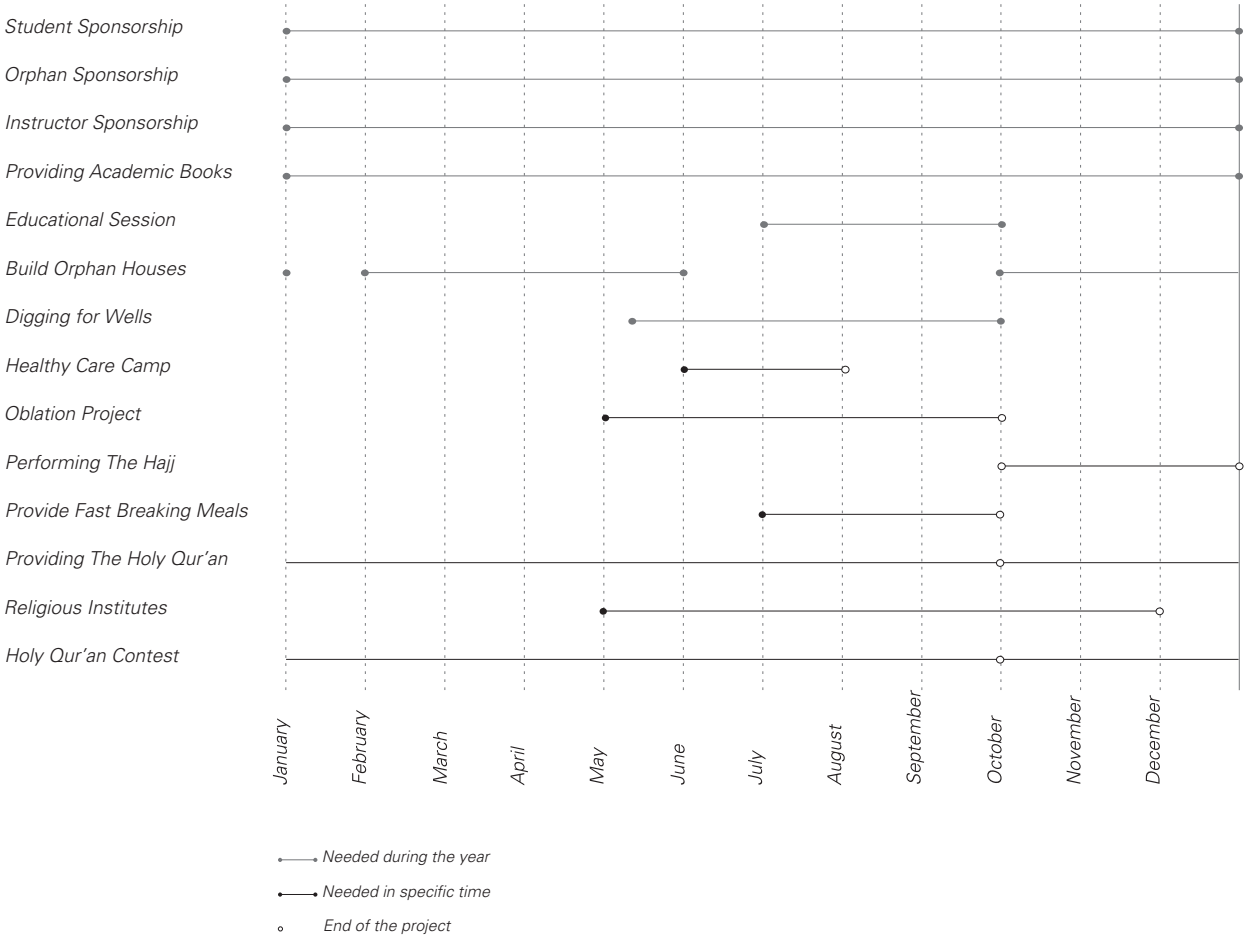
Project Needs in Madagascar 2008-2009



Information Source *continued*

The chart below organizes the projects over the calendar year based on need. Each project has its own requirements and demands related to time components such as actual timing, start and end points, and the overall duration. The organization of these different projects helps to clarify the messages that need to be delivered to outside audiences in order to get desired reactions.

DirectAid's Project Sequence in the Calender Year 2008-2009



Selected Goals

The thesis committee suggested there should be more focus on researching specific DirectAid projects that relate to children's education in Madagascar for 2008-2009. These projects can serve as a foundation of data which meet the criteria of a complex message. From the complexity of information, a ambiguous message can be created and revealed in the final application, which will meet the application goals (see page 44).

Provide student supplies, such as pens/pencils, books, uniforms, bags, etc.

Quantity	150,000 students
Cost in dollars	$ 39 per student

Provide seasonal clothing for the students and maybe their families.

Quantity	500,000 clothing items
Cost in dollars	$ 6.5 per clothing item

Provide three meals a day for each student and their families.
This will allow the families to send their children to school rather than work.

Quantity	500,000 meals
Cost in dollars	$ 3.90 per meal

Provide a salary and living supplies for licensed, qualified teachers.

Quantity	100 teachers
Cost in dollars	$ 117 per teacher

Provide a house town that includes a school classroom, housing for students, farming grounds, a water source, and a small store.

Quantity	5 houses
Cost in dollars	$ 650,000 per house

Design Application

The research in this thesis will be applied toward the design of a poster series in which each poster delivers the same intended end message with ranging degrees of ambiguity. Time and timing considerations will be incorporated into the process of analyzing and understanding optimal viewer comprehension. In addition, throughout the poster series, there are a number of qualities that need to be observed, such as the effect of time components on visual communication, and the effect of different design decisions on the message-making within resulting design solutions.

Why a poster series?

One of the best vehicles to deliver DirectAid's goals while meeting the goals of this thesis is a poster series. Posters offer different degrees of perception at various distances. Posters offer a balance between economical production cost and powerful message delivery. In addition, DirectAid or other organizations that deal with time-sensitive issues benefit from applications that do not require extended time in the production phase.

The Problem

The current promotions for the DirectAid organization are weak and ineffective in their use of graphic design elements and variables. Few of the design solutions employ consistency and the organization does not manage to visually communicate its goals to identified audiences in a timely manner in order to yield productive responses. For examples of existing posters from DirectAid see Appendix B.

Examples of DirectAid's existing posters

This design solution promotes the need for the Holy Qur'an book in Africa, 2006.

This design solution promotes the need to find sponsors for orphans in Africa, 2005.

The Audience

This design solution would be targeted toward educated adults living in Kuwait, where DirectAid is located, or in the Arabian Gulf area, where the citizens have cultural viewpoints similar to Kuwait's citizens. In this way the researcher will be sure that the target audiences share the same potential for understanding semantic and aesthetic decisions within each poster application.

Design Application *continued*

Stage A **The Design Process**

In the ideation stage of the design process, one way to begin devising an appropriate message is through the use of a generative matrix. This method organizes key words and concepts in order to apply them toward new design solutions that address established communication goals. In addition, a generative matrix encourages the designer to cross-reference and compare aspects or characteristics of a subject that the designer may not otherwise have considered. It helps the designer to be very systematic and deliberate in his/her message-making process.

Generative Matrix For DirectAid's Poster Series

Attributes/ Features	**Perceptual Goals**							
	Quality	*Effective*	*Serious*	*Needy*	*Poor*	*Hopeful*	*Beautiful*	*Happy*
Culture	X				X			X
Color		X	X		**X**			X
Gender		**X**		X			X	
Instructor	**X**		**X**		X	X		
Students			X		X		**X**	
Backpack	X		X	**X**				
Books						X	X	**X**
Uniform		**X**		X			X	
School	**X**				X			X
Classroom		X			**X**	X		
Library				**X**	X			X
College		X				**X**		X

Poster ideation was prompted by these particular intersections on the matrix above:

Quality/Instructed
Needy/Backpack
Beautiful/Student
Effective/Uniform

Effective/Gender
Poor/Classroom
Quality/School
Happy/Book

Serious/Instructor
Hopeful/College
Needy/Library
Poor/Color

Design Application *continued*

Stage B **Gathering Images**

Gathering and organizing images related to children's education in Madagascar further helped the researcher to understand the issues surrounding this topic. In addition, the process of gathering images helped the researcher to notice the cultural and life style attributes that Madagascar's people have, which influenced the designer's decisions, such as color choice, type of font, and kind of written message. This stage helped the designer carefully deliver the atmosphere in Madagascar to the viewer. The collected images were distributed into eight categories:

Natural environment
Schools and classrooms
Teachers and teaching styles
Kinds of food
Starvation
House town
Poor families
Orphaned children

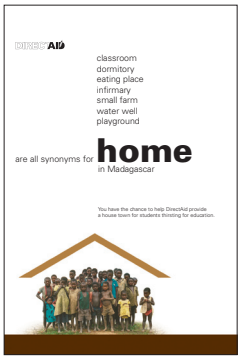
DirectAid was a great source for images related to the above categories. They gave the researcher the rights to use their collection of images in this thesis study and for related design applications. The Internet was a good secondary source for imagery.

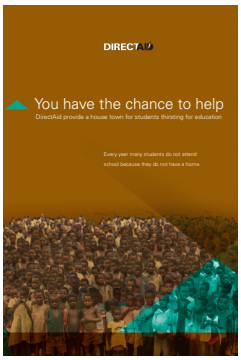
Design Application *continued*

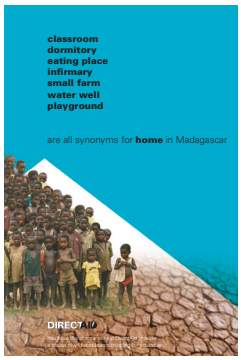
Stage C **Ideation Sketches**

On the basis of the five different goals that DirectAid set to help children's education in Madagascar in the year 2008-2009 (see Page 49), a series of sketches begun through applying the generative matrix intersections was initiated (see stage A, page 51). Rhetorical operations were also involved to obtain different degrees of ambiguity, in order to cover the second main focus area of this thesis, which deals with defining ambiguous messages. The layouts below were the first steps toward the final application. By testing time components against a range of design choices, a more significant evaluation was achieved.

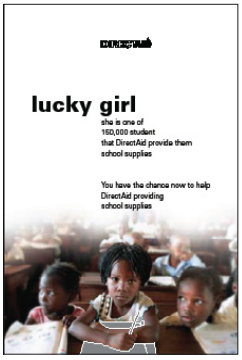
Potential Content 1
Provide a house town

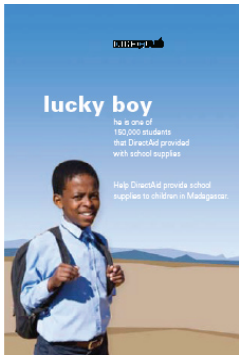




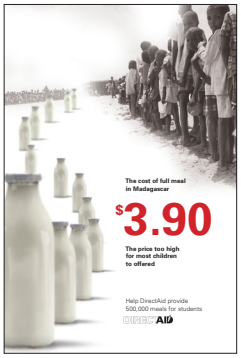


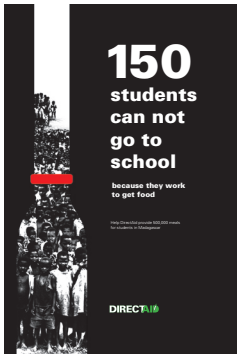
Potential Content 2
Provide school supplies

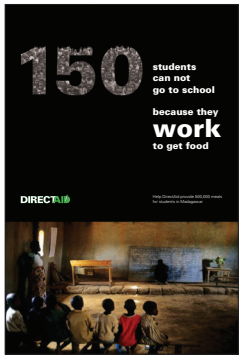




Potential Content 3
Provide three meals a day





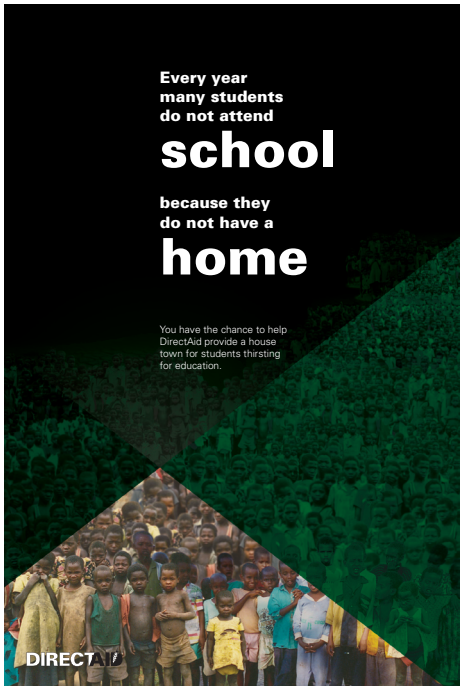


Design Application *continued*

Stage D **Final Outside Context Selection**

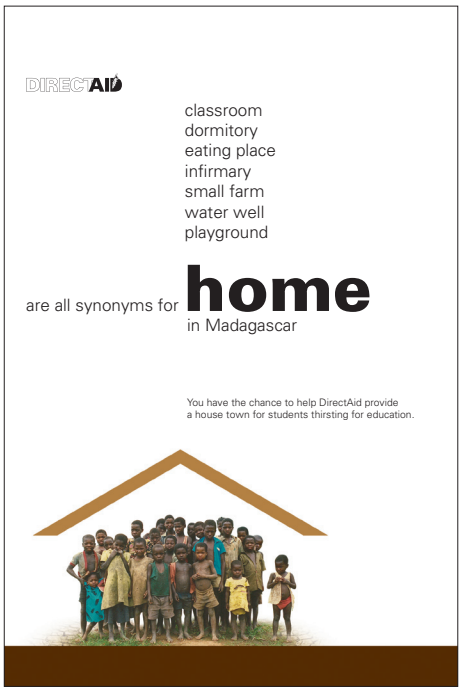
After several stages of sketches, it was easy to notice that the importance of providing communities to Madagascar's children in order to enable them to enroll in school was a strong potential message for the focus of this application. Providing houses and communities in Madagascar helps children to go to school, learn, and obtain knowledge. The unexpected interconnectedness between these subjects provides a foundation for different degrees of ambiguity in the design. Thus, the thesis committee recommended the researcher focus more on the issue of providing a community that includes a school classroom, housing for students, farming grounds, a water source, and a small store. The focus of this research is to generate various layouts that communicate different levels of information in order to arrive at the final design solutions that meet the goals that are defined on page 44.

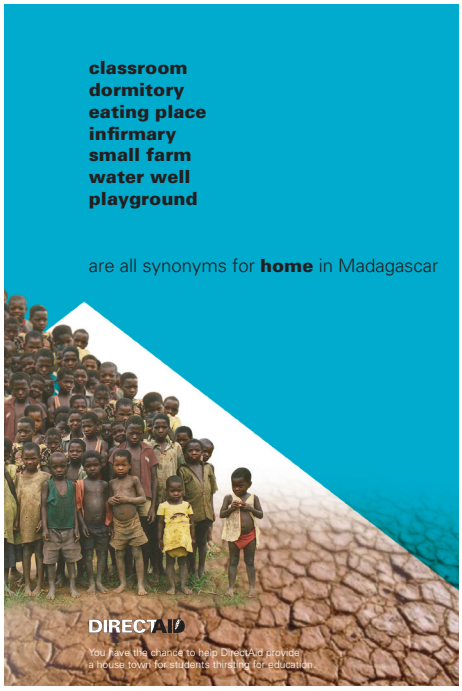
Final Content

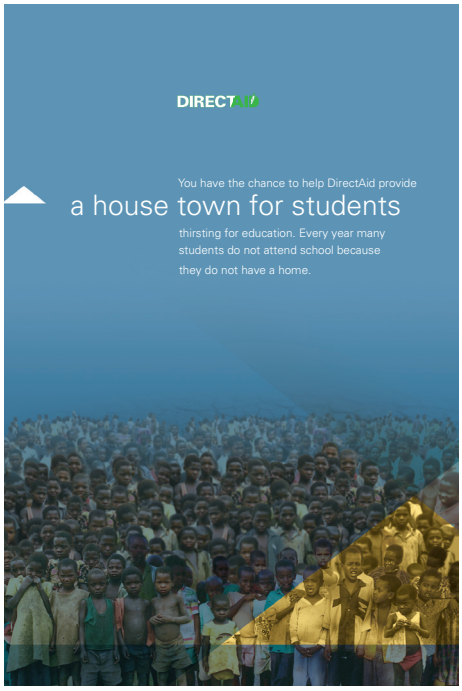


Design Application *continued*

Final Content
continued

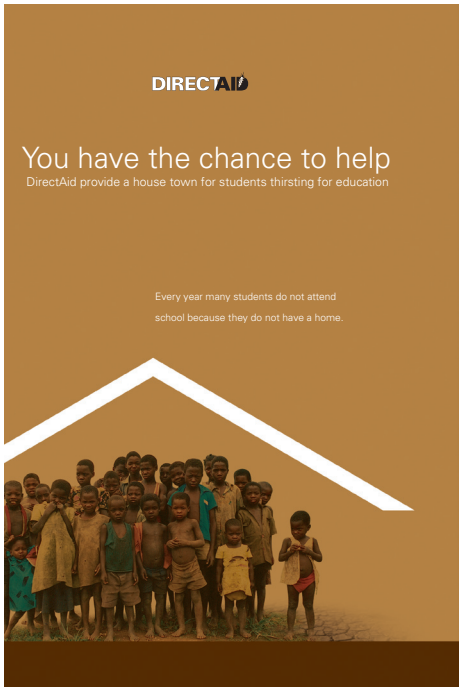


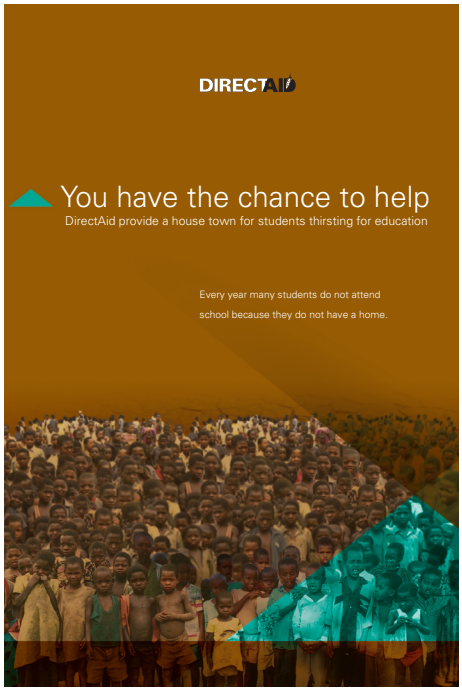




Design Application *continued*

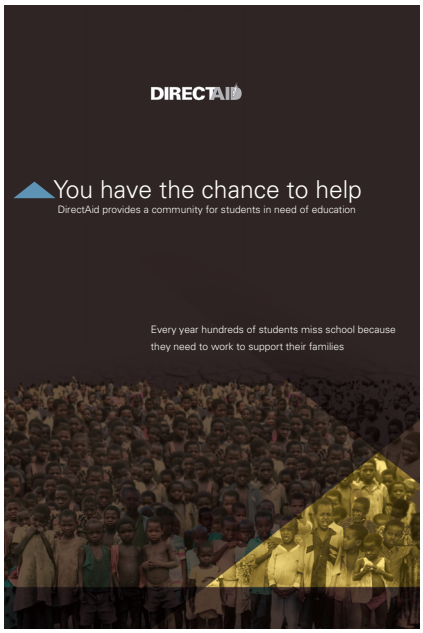
Final Content
continued

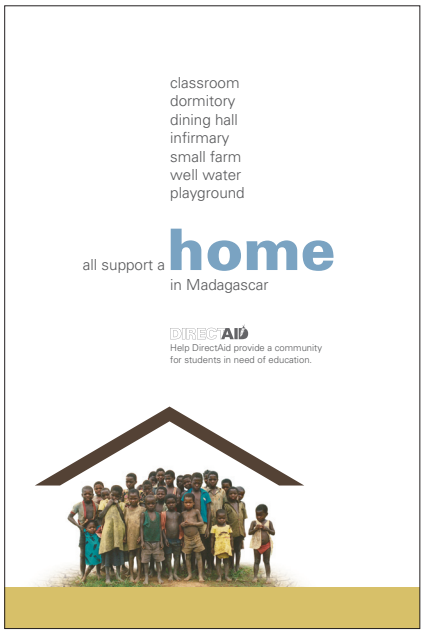


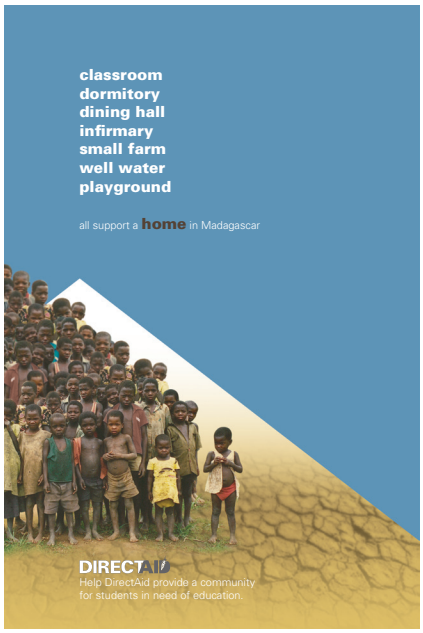


Selected Poster Series Direction

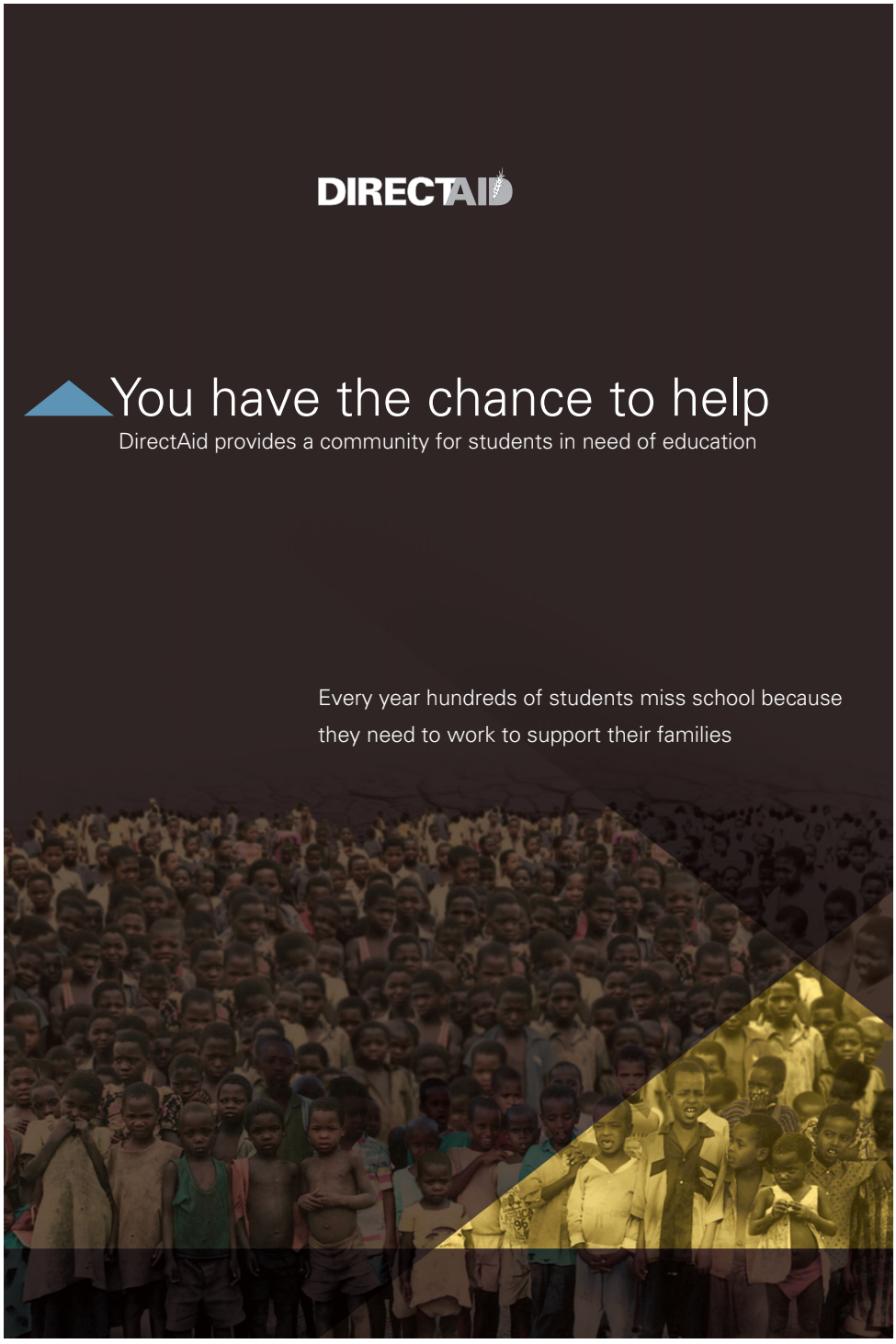
From this range of layouts for the final selected outside content, three design solutions were picked to be the poster series application for this thesis. The selected posters were the most design solutions that had been developed. The selected design solution included complex information: the need to provide aid for communities in order to educate children in Madagascar. In addition, they activated various channels of perception in order to achieve different degrees of comprehension by each individual viewer.



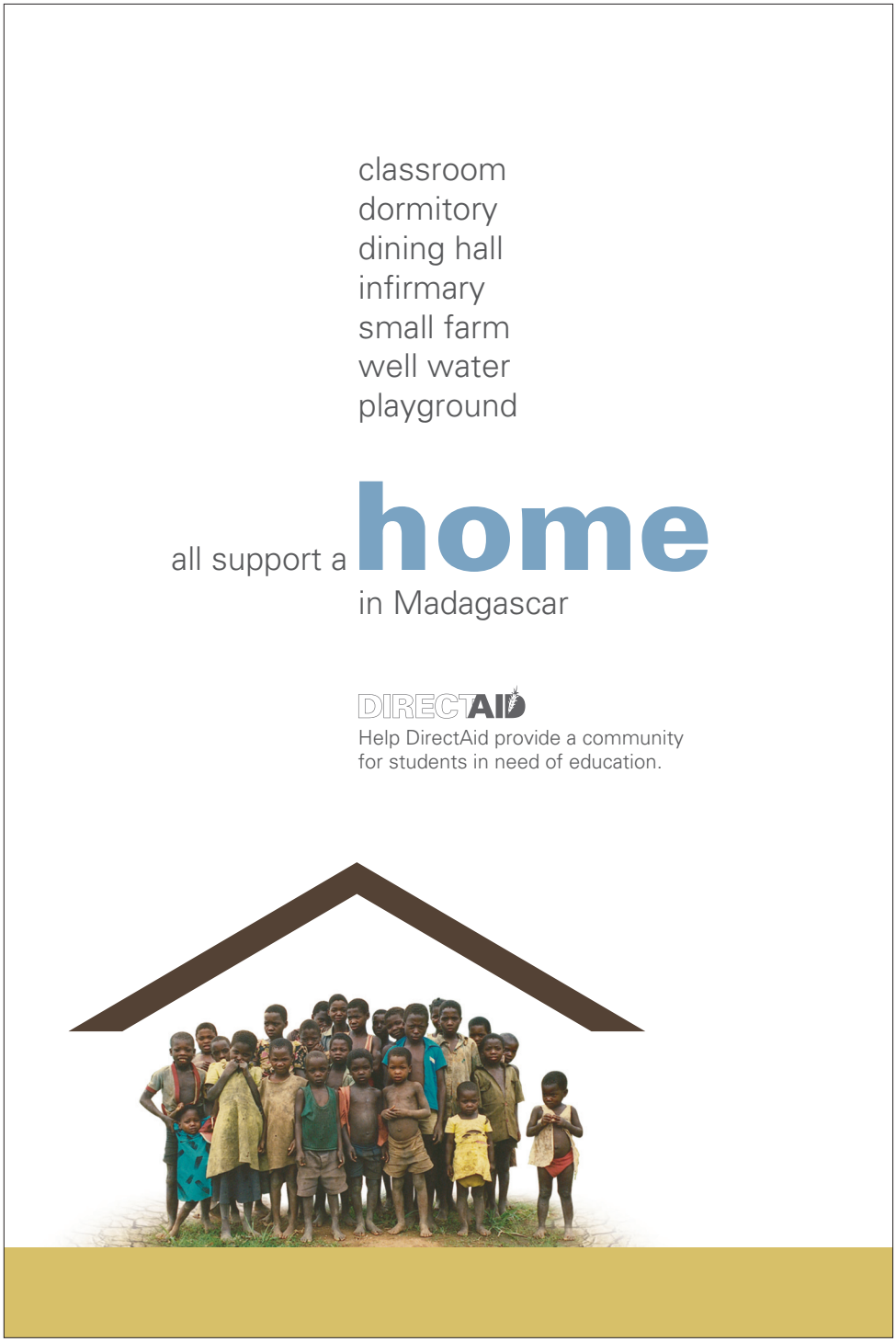




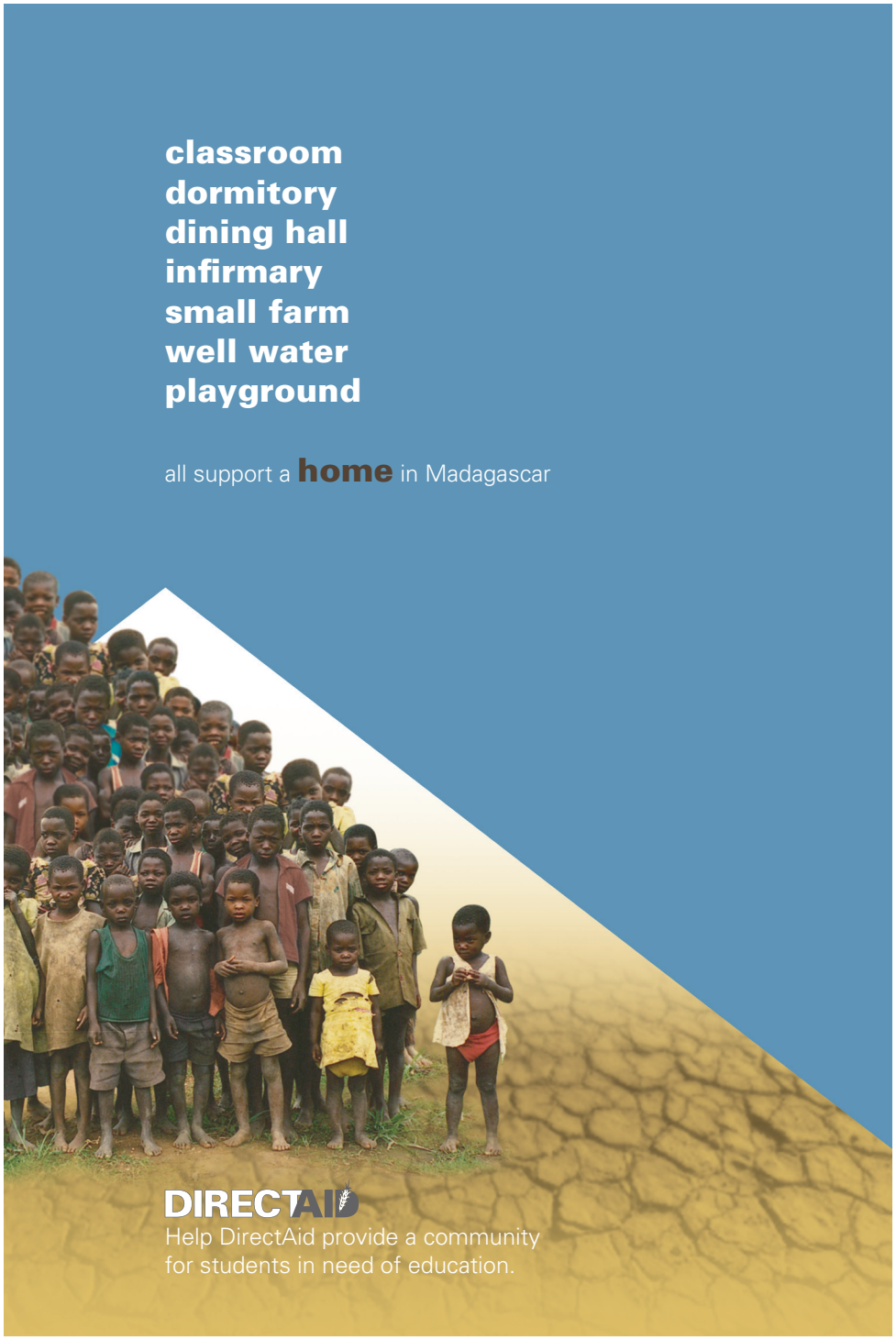
Selected Poster Series Direction
Design Solution A



Selected Poster Series Direction *continued*
Design Solution B



Selected Poster Series Direction *continued*
Design Solution C



Introduction

After defining timing and duration in the synthesis section (see page 28), the relationship that ties the elements of timing, frequency, and duration together was clarified. The researcher then arrived at a point where he needed to analyze the effect of time components on the design decisions. Finding the time components that have the most positive affects on viewer comprehension of intentionally ambiguous design solutions is critical.

The purpose of this intermediate evaluation stage is to analyze the effects of viewing duration and frequency on the preliminary layouts generated in the ideation phase of this project (see page 57). Three groups of questions were established for this purpose. The first group of questions related to visual aesthetic decisions such as those involved with color, line, size, shape, form, and texture. The second group of questions focused on typographic decisions such as text size, font choice, and hierarchy decisions. The third group of questions was concerned with the clarity of meaning and communicative success. The questions attempt to determine if the design decisions in each solution were successful, and if the intended subject matter in each poster was quickly conveyed. Through these questions the researcher aimed to discover whether the time components of duration and frequency have an effect on message comprehension.

Audience and Location

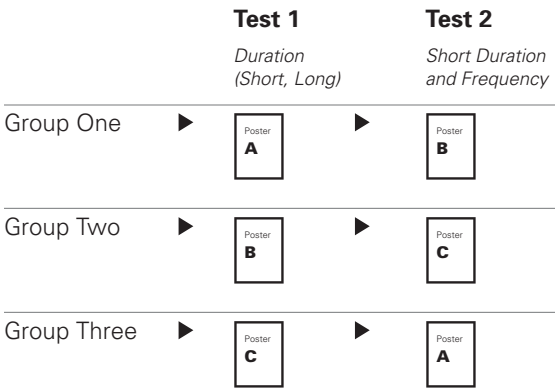
As has already been stated, this design solution would be targeted toward educated adults living in Kuwait or in the Arabic gulf area who have an interest in contributing toward solving problems in countries with poverty around the world. To mimic this target audience, a selected group of native Arab speaking students from the RIT English Language Center and students from the academic programs at RIT were identified.

Evaluation Procedure

The process of evaluation enabled the researcher to observe differences between the effects of duration (short and long) and those of frequency on visual communication. It was decided that a relevant manner of evaluation would be to sequence and group the posters to ensure equal response coverage of each. With each poster tested equally, the success of specific design decisions would become evident (for further explanation see page 62).

Evaluation Procedure

The evaluation was done in three sequences with three groups of people each evaluating three different posters with different time components: frequency, short duration, and long duration. Each group was exposed to two different posters in two different orders as shown below. Group one tested posters A & B, group two tested posters B & C, and group three tested posters C & A. The reason for this process was to ensure that all the posters were tested with different time components in mind, and the evaluators had a fresh eye and feeling toward each solution.



How the time components were integrated into the evaluation process:

Short Duration
This time component was tested twice by every group in each poster evaluation session. The evaluator was exposed to the design solution for 5 seconds or less, with enough time to capture the poster, and get the evaluator's attention.

Long Duration
30 seconds was the exposure time for the design solution in this phase, which was intended to mimic the time of waiting on at a subway station, bus stop, or in a car at a traffic light. 30 seconds is a shorter time than in real life, but takes into consideration that the evaluation environment is different, and the attention of the evaluator is more focused.

Frequency
The researcher tested frequency by showing the viewers each poster for 5 seconds, repeated three times with two pauses of 5 seconds each. The time was set this way in order to echo the advertisements and other visual communication messages that people are exposed to, such as on their typical route to work or school.

The Questionnaire

On the initial evaluation sheet, the questions were ordered in three categories: visual aesthetics, typography, and message clarity. However, the thesis committee suggested mixing the questions within these three categories together, and re-form the questions into direct and indirect questions, so the evaluators answer the same question two times in two different ways. The reason for this system is to ensure the evaluator is not randomly answering the questions, therefore avoiding false answers.

	Direct Questions	*Indirect Questions*
Visual Aesthetics	■ The poster layout is visually pleasing. ■ The colors are attractive.	■ The visuals are relevant. ■ The colors clearly present African culture. ■ The imagery presents the issue of children's education.
Typography	■ The title has clear meaning. ■ The text size is easy to read. ■ The font is easy to read. ■ The spacing between words is easy to follow. ■ The title of the poster is able to be distinguished. ■ The text is easy to understand regardless of native language.	■ The poster is sponsored by the nonprofit organization, DirectAid. ■ The poster informs society about DirectAid's mission and goals. ■ The poster educates you about the lack of education in Madagascar. ■ The poster raises funds for children's education in Madagascar. ■ The font choice reflects the seriousness of the issue. ■ The purpose of the poster is to aid orphaned children.
Message Delivery	■ The message is straightforward. ■ The copy of the poster is eye-catching. ■ The imagery of the poster is attention-grabbing ■ The subject matter of the poster is quickly conveyed. ■ The information presented flows logically.	■ Children in Madagascar need help. ■ The poster gives hope for children in Madagascar. ■ Children's education in Madagascar is improving. ■ The sponsor of the poster is DirectAid. ■ DirectAid is trying to help children in the world. ■ The message seems loud and scary. ■ Because of the information on the poster would consider donating $20. ■ Which poster do you feel was more successful? Why?

Final Questionnaire Form
Page one

Poster Series Questionnaire

Ahmad Aloumi
MFA Candidate

Evaluator Background

Age _____ Occupation _____ Native Language _____
Home Country _____ Years living in USA _____

Poster Evaluation

Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank. Please fill in your responses to the following statements based on the poster designs you have reviewed.

Poster A, part one.

		Disagree				*Agree*
1	The design implies a positive message.	①	②	③	④	⑤
2	The design presents the issue of children's needs.	①	②	③	④	⑤
3	The imagery presents an issue of children's education.	①	②	③	④	⑤
4	The colors are attractive.	①	②	③	④	⑤
5	The written message is clearly understood.	①	②	③	④	⑤
6	The poster is sponsored by:	○ Unicef		○ DirectAid		○ Children First
7	The subject matter of this poster is:					

○ Starvation ○ Water shortage ○ Housing or shelter ○ Lack of education ○ Various diseases ○ Other: ---------- *(please specify)*

Poster A, part two.

		Disagree				*Agree*
1	The visuals are relevant to children's needs.	①	②	③	④	⑤
2	The colors suggest African culture.	①	②	③	④	⑤
3	The design decisions convey the seriousness of the issue.	①	②	③	④	⑤
4	The text of the poster is eye catching.	①	②	③	④	⑤
5	The information presented flows logically.	①	②	③	④	⑤
6	The imagery of the poster is attention grabbing.	①	②	③	④	⑤
7	The sponsor of the poster is easy to see.	①	②	③	④	⑤
8	The text is easy to understand regardless of native language.	①	②	③	④	⑤
9	The text size is easy to read.	①	②	③	④	⑤
10	The font style is easy to read.	①	②	③	④	⑤
11	The poster requests funds for children's education in Madagascar.	Ⓨ	Ⓝ			
12	The message is straightforward.	Ⓨ	Ⓝ			
13	The poster successfully gives hope for children in Madagascar.	Ⓨ	Ⓝ			

Please check one answer in each row

14 The poster informs society about:
○ The need for children's housing ○ DirectAid's mission and goals ○ The lack of education in Madagascar

15 The subject matter of the poster is: ○ housing ○ education ○ food

16 Children in Madagascar need: ○ Food ○ Home ○ Education

Comments Overall? ----------

Final Questionnaire Form
Page two

Poster Series Questionnaire (continued)

Poster B, part one.

		Disagree				*Agree*
1	The design implies a positive message.	①	②	③	④	⑤
2	The design presents the issue of children's needs.	①	②	③	④	⑤
3	The imagery presents an issue of children's education.	①	②	③	④	⑤
4	The colors are attractive.	①	②	③	④	⑤
5	The written message is clearly understood.	①	②	③	④	⑤

6 The poster is sponsored by: ○ Unicef ○ DirectAid ○ Children First

7 The subject matter of this poster is:

○ Starvation ○ Water shortage ○ Housing or shelter ○ Lack of education ○ Various diseases ○ Other: ---------- *(please specify)*

Poster B, part two.

		Disagree				*Agree*
1	The visuals are relevant to children's needs.	①	②	③	④	⑤
2	The colors suggest African culture.	①	②	③	④	⑤
3	The design decisions convey the seriousness of the issue.	①	②	③	④	⑤
4	The text of the poster is eye catching.	①	②	③	④	⑤
5	The information presented flows logically.	①	②	③	④	⑤
6	The imagery of the poster is attention grabbing.	①	②	③	④	⑤
7	The sponsor of the poster is easy to see.	①	②	③	④	⑤
8	The text is easy to understand regardless of native language.	①	②	③	④	⑤
9	The text size is easy to read.	①	②	③	④	⑤
10	The font style is easy to read.	①	②	③	④	⑤

11	The poster requests funds for children's education in Madagascar.	Ⓨ	Ⓝ
12	The message is straightforward.	Ⓨ	Ⓝ
13	The poster successfully gives hope for children in Madagascar.	Ⓨ	Ⓝ

Please check one answer in each row

14 The poster informs society about:

○ The need for children's housing ○ DirectAid's mission and goals ○ The lack of education in Madagascar

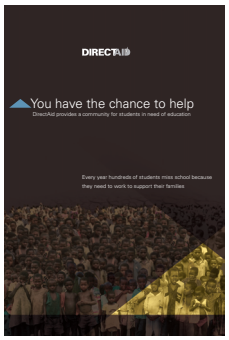
15 The subject matter of the poster is: ○ housing ○ education ○ food

16 Children in Madagascar need: ○ Food ○ Home ○ Education

Comments Overall? ----------

Evaluation Results for Poster A

Short Duration



1 **The design implies a positive message.** Average 3.50
9 respondents strongly agree
3 respondents agree
6 respondents somewhat agree
2 respondents disagree
3 respondents strongly disagree

2 **The design presents the issue of children's needs.** Average 3.95
9 respondents strongly agree
9 respondents agree
1 respondent somewhat agrees
3 respondents disagree
1 respondent strongly disagrees

3 **The imagery presents an issue of children's education.** Average 3.30
5 respondents strongly agree
5 respondents agree
5 respondents somewhat agree
8 respondents disagree
0 respondents strongly disagree

4 **The colors are attractive.** Average 3.00
3 respondents strongly agree
4 respondents agree
9 respondents somewhat agree
4 respondents disagree
3 respondents strongly disagree

5 **The written message is clearly understood.** Average 3.70
8 respondents strongly agree
5 respondents agree
8 respondents somewhat agree
0 respondents disagree
2 respondents strongly disagree

Evaluation Results for Poster A

Short Duration
continues

6 **The poster is sponsored by:**

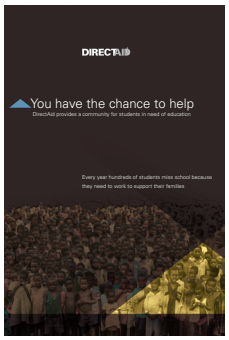
Unicef	09%
DirectAid	82%
Children First	09%

7 **The subject matter of this poster is:**

Starvation	18%
Water shortage	09%
Housing or shelter	18%
Lack of education	45%
Various diseases	10%
Others	-

Evaluation Results for Poster A

Long Duration



1 **The visuals are relevant to children's needs.** Average 4.00
5 respondents strongly agree
3 respondents agree
3 respondents somewhat agree
1 respondent disagrees
0 respondents strongly disagree

2 **The colors suggest African culture.** Average 4.30
5 respondents strongly agree
6 respondents agree
1 respondent somewhat agrees
0 respondents disagree
0 respondents strongly disagree

3 **The design decisions convey the seriousness of the issue.** Average 4.08
4 respondents strongly agree
5 respondents agree
3 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

4 **The text of the poster is eye-catching.** Average 3.58
1 respondent strongly agrees
7 respondents agree
2 respondents somewhat agree
2 respondents disagree
0 respondents strongly disagree

5 **The information presented flows logically.** Average 4.33
5 respondents strongly agree
3 respondents agree
5 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

6 **The imagery of the poster is attention-grabbing.** Average 3.60
4 respondents strongly agree
3 respondents agree
3 respondents somewhat agree
1 respondent disagrees
1 respondent strongly disagrees

Evaluation Results for Poster A

Long Duration
continues

7 **The sponsor of the poster is easy to see.** Average 4.00
7 respondents strongly agree
3 respondents agree
0 respondents somewhat agree
0 respondents disagree
1 respondent strongly disagrees

8 **The text is easy to understand regardless of native language.** Average 4.16
3 respondents strongly agree
6 respondents agree
2 respondents somewhat agree
0 respondents disagree
1 respondent strongly disagrees

9 **The text size is easy to read.** Average 4.00
5 respondents strongly agree
5 respondents agree
0 respondents somewhat agree
1 respondent disagrees
1 respondent strongly disagrees

10 **The font style is easy to read.** Average 4.80
5 respondents strongly agree
5 respondents agree
1 respondent somewhat agrees
0 respondents disagree
1 respondent strongly disagrees

11 **The poster requests funds for children's education in Madagascar.** Average 3.75
9 respondents agree by marking yes.
3 respondents disagree by marking no.

12 **The message is straightforward.** Average 4.16
10 respondents agree by marking yes.
2 respondents disagree by marking no.

13 **The poster successfully gives hope for children in Madagascar.** Average 2.91
7 respondents agree by marking yes.
5 respondents disagree by marking no.

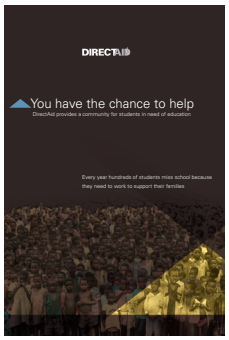
Evaluation Results for Poster A

Long Duration
continues

14	**The poster informs society about:**	
	The need for children's housing	25%
	DirectAid's mission and goals	58%
	The lack of education in Madagascar	17%
15	**The subject matter of the poster is:**	
	Housing	17%
	Education	83%
	Food	-
16	**Children in Madagascar need:**	
	Food	-
	Home	17%
	Education	83%

Evaluation Results for Poster A

Frequency



1 **The visuals are relevant to children's needs.** Average 4.30
6 respondents strongly agree
3 respondents agree
0 respondents somewhat agree
2 respondents disagree
0 respondents strongly disagree

2 **The colors suggest African culture.** Average 4.08
8 respondents strongly agree
1 respondent agrees
1 respondent somewhat agrees
0 respondents disagree
2 respondents strongly disagree

3 **The design decisions convey the seriousness of the issue.** Average 3.33
2 respondents strongly agree
4 respondents agree
2 respondents somewhat agree
4 respondents disagree
0 respondents strongly disagree

4 **The text of the poster is eye-catching.** Average 4.66
1 respondent strongly agrees
3 respondents agree
6 respondents somewhat agree
1 respondent disagrees
1 respondent strongly disagrees

5 **The information presented flows logically.** Average 4.16
2 respondents strongly agree
10 respondents agree
1 respondent somewhat agrees
0 respondents disagree
0 respondents strongly disagree

6 **The imagery of the poster is attention-grabbing.** Average 3.83
2 respondents strongly agree by mark 5
6 respondents agree by marking 4
4 respondents somewhat agree by marking 3
0 respondents disagree by marking 2
0 respondents strongly disagree by marking 1

Evaluation Results for Poster A

Frequency
continued

7 **The sponsor of the poster is easy to see.** Average 4.41
7 respondents strongly agree
3 respondents agree
1 respondent somewhat agrees
0 respondents disagree
1 respondent strongly disagrees

8 **The text is easy to understand regardless of native language.** Average 4.41
7 respondents strongly agree
3 respondents agree
2 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

9 **The text size is easy to read.** Average 4.08
5 respondents strongly agree
5 respondents agree
0 respondents somewhat agree
2 respondents disagree
0 respondents strongly disagree

10 **The font style is easy to read.** Average 4.83
10 respondents strongly agree
2 respondents agree
0 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

11 **The poster requests funds for children's education in Madagascar.** Average 3.75
9 respondents agree by marking yes.
3 respondents disagree by marking no.

12 **The message is straightforward.** Average 5.00
12 respondents agree by marking yes.
0 respondents disagree by marking no.

13 **The poster successfully gives hope for children in Madagascar.** Average 3.33
8 respondents agree by marking yes.
2 respondents disagree by marking no.

Evaluation Results for Poster A

Frequency
continued

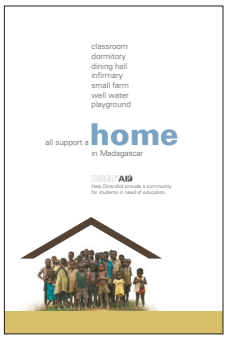
14	**The poster informs society about:**	
	The need for children's housing	-
	DirectAid's mission and goals	67%
	The lack of education in Madagascar	33%
15	**The subject matter of the poster is:**	
	Housing	9%
	Education	91%
	Food	-
16	**Children in Madagascar need**	
	Food	17%
	Home	8%
	Education	75%

Comments Overall?

** Minimal design conveys information clearly, but the colors are rather dark.*
** I don't remember reading Madagascar.*
** Good.*
** Home.*
** If there were no words, one couldn't clearly understanding the images.*

Evaluation Results for Poster B

Short Duration



1 **The design implies a positive message.** Average 3.90

10 respondents strongly agree
4 respondents agree
5 respondents somewhat agree
2 respondents disagree
1 respondent strongly disagrees

2 **The design presents the issue of children's needs.** Average 4.13

12 respondents strongly agree
4 respondents agree
4 respondents somewhat agree
1 respondent disagrees
1 respondent strongly disagrees

3 **The imagery presents an issue of children's education.** Average 3.27

6 respondents strongly agree
5 respondents agree
4 respondents somewhat agree
3 respondents disagree
4 respondents strongly disagree

4 **The colors are attractive.** Average 4.80

3 respondents strongly agree
9 respondents agree
8 respondents somewhat agree
2 respondents disagree
0 respondents strongly disagree

5 **The written message is clearly understood.** Average 4.00

6 respondents strongly agree
11 respondents agree
5 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

Evaluation Results for Poster B

Short Duration
continued

6 **The poster is sponsored by:**

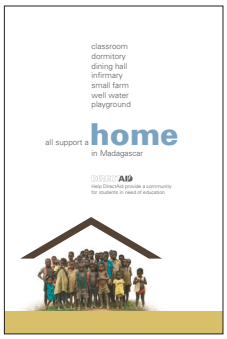
Unicef	-
DirectAid	64.0 %
Children First	36.0 %

7 **The subject matter of this poster is:**

Starvation	4.5 %
Water shortage	4.5 %
Housing or shelter	64.0 %
Lack of education	22.5 %
Various diseases	4.5 %

Evaluation Results for Poster B

Long Duration



1 **The visuals are relevant to children's needs.** Average 3.20
2 respondents strongly agree
1 respondent agree s
4 respondents somewhat agree
3 respondents disagree
0 respondents strongly disagree

2 **The colors suggest African culture.** Average 3.25
1 respondent strongly agrees
1 respondent agrees
3 respondents somewhat agree
4 respondents disagree
1 respondent strongly disagrees

3 **The design decisions convey the seriousness of the issue.** Average 3.00
3 respondents strongly agree
3 respondents agree
2 respondents somewhat agree
1 respondent disagrees
1 respondent strongly disagrees

4 **The text of the poster is eye-catching.** Average 2.83
2 respondents strongly agree
7 respondents agree
1 respondent somewhat agrees
0 respondents disagree
0 respondents strongly disagree

5 **The information presented flows logically.** Average 3.41
3 respondents strongly agree
6 respondents agree
0 respondents somewhat agree
1 respondent disagrees
0 respondents strongly disagree

6 **The imagery of the poster is attention-grabbing.** Average 3.58
4 respondents strongly agree
5 respondents agree
1 respondent somewhat agrees
0 respondents disagree
0 respondents strongly disagree

Evaluation Results for Poster B

Long Duration
continued

7 **The sponsor of the poster is easy to see.** Average 3.91
5 respondents strongly agree
4 respondents agree
0 respondents somewhat agree
1 respondent disagrees
0 respondents strongly disagree

8 **The text is easy to understand regardless of native language.** Average 3.33
4 respondents strongly agree
4 respondents agree
0 respondents somewhat agree
2 respondents disagree
0 respondents strongly disagree

9 **The text size is easy to read.** Average 3.58
5 respondents strongly agree
3 respondents agree
2 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

10 **The font style is easy to read.** Average 3.91
7 respondents strongly agree
3 respondents agree
0 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

11 **The poster requests funds for children's education in Madagascar.** Average 2.00
4 respondents agree by marking yes.
6 respondents disagree by marking no.

12 **The message is straightforward.** Average 4.00
8 respondents agree by marking yes.
2 respondents disagree by marking no.

13 **The poster successfully gives hope for children in Madagascar.** Average 3.00
6 respondents agree by marking yes
4 respondents disagree by marking no.

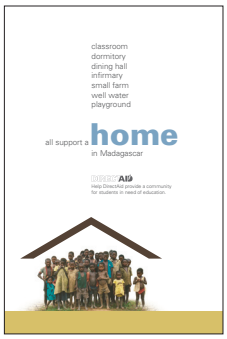
Evaluation Results for Poster B

Long Duration
continued

14	**The poster informs society about:**	
	The need for children's housing	60%
	DirectAid's mission and goals	-
	The lack of education in Madagascar	40%
15	**The subject matter of the poster is:**	
	Housing	60%
	Education	-
	Food	40%
16	**Children in Madagascar need:**	
	Food	-
	Home	60%
	Education	40%

Evaluation Results for Poster B

Frequency



1 **The visuals are relevant to children's needs.** Average 4.75
9 respondents strongly agree
3 respondents agree
0 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

2 **The colors suggest African culture.** Average 3.50
3 respondents strongly agree
3 respondents agree
4 respondents somewhat agree
3 respondents disagree
0 respondents strongly disagree

3 **The design decisions convey the seriousness of the issue.** Average 3.41
1 respondent strongly agrees
5 respondents agree
4 respondents somewhat agree
2 respondents disagree
0 respondents strongly disagree

4 **The text of the poster is eye-catching.** Average 3.75
2 respondents strongly agree
6 respondents agree
3 respondents somewhat agree
1 respondent disagrees
0 respondents strongly disagree

5 **The information presented flows logically.** Average 3.91
2 respondents strongly agree
7 respondents agree
3 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

6 **The imagery of the poster is attention-grabbing.** Average 4.08
5 respondents strongly agree
3 respondents agree
4 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

Evaluation Results for Poster B

Frequency
continued

7 **The sponsor of the poster is easy to see.** Average 3.33
4 respondents strongly agree
4 respondents agree
1 respondent somewhat agrees
3 respondents disagree
0 respondents strongly disagree

8 **The text is easy to understand regardless of native language.** Average 3.83
3 respondents strongly agree
5 respondents agree
3 respondents somewhat agree
1 respondent disagrees
0 respondents strongly disagree

9 **The text size is easy to read.** Average 4.41
6 respondents strongly agree
5 respondents agree
1 respondent somewhat agrees
0 respondents disagree
0 respondents strongly disagree

10 **The font style is easy to read.** Average 4.16
5 respondents strongly agree
5 respondents agree
1 respondent somewhat agrees
1 respondent disagrees
0 respondents strongly disagree

11 **The poster requests funds for children's education in Madagascar.** Average 2.50
6 respondents agree by marking yes.
6 respondents disagree by marking no.

12 **The message is straightforward.** Average 3.33
8 respondents agree by marking yes.
4 respondents disagree by marking no.

13 **The poster successfully gives hope for children in Madagascar.** Average 3.75
9 respondents agree by marking yes.
3 respondents disagree by marking no.

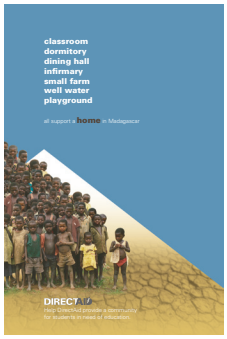
Evaluation Results for Poster B

Frequency
continued

14	**The poster informs society about:**	
	The need for children's housing	50%
	DirectAid's mission and goals	25%
	The lack of education in Madagascar	25%
15	**The subject matter of the poster is:**	
	Housing	67%
	Education	33%
	Food	-
16	**Children in Madagascar need:**	
	Food	-
	Home	59%
	Education	41%

Evaluation Results for Poster C

Short Duration



1 **The design implies a positive message.** Average 3.90

10 respondents strongly agree
4 respondents agree
5 respondents somewhat agree
2 respondents disagree
1 respondent strongly disagrees

2 **The design presents the issue of children's needs.** Average 4.36

12 respondents strongly agree
7 respondents agree
2 respondents somewhat agree
1 respondent disagrees
0 respondents strongly disagree

3 **The imagery presents an issue of children's education.** Average 3.00

5 respondents strongly agree
6 respondents agree
2 respondents somewhat agree
2 respondents disagree
7 respondents strongly disagree

4 **The colors are attractive.** Average 3.72

6 respondents strongly agree
9 respondents agree
4 respondents somewhat agree
1 respondent disagrees
2 respondents strongly disagree

5 **The written message is clearly understood.** Average 3.81

6 respondents strongly agree
8 respondents agree
7 respondents somewhat agree
0 respondents disagree
1 respondent strongly disagrees

Evaluation Results for Poster C

Short Duration
continued

6 **The poster is sponsored by:**

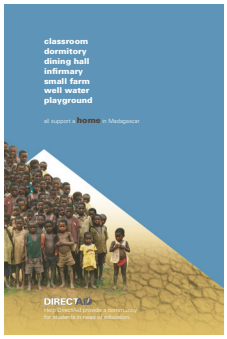
DirectAid	23.0 %
Unicef	69.0 %
Children First	5.0 %

7 **The subject matter of this poster is:**

Starvation	4.5 %
Water shortage	4.5 %
Housing or shelter	45.5 %
Lack of education	45.5 %
Various diseases	-

Evaluation Results for Poster C

Long Duration



1 **The visuals are relevant to children's needs.** Average 4.50
7 respondents strongly agree
3 respondents agree
2 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

2 **The colors suggest African culture.** Average 4.27
7 respondents strongly agree
2 respondents agree
2 respondent somewhat agree
1 respondent disagrees
0 respondents strongly disagree

3 **The design decisions convey the seriousness of the issue.** Average 4.45
3 respondents strongly agree
7 respondents agree
2 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

4 **The text of the poster is eye-catching.** Average 4.10
2 respondents strongly agree
8 respondents agree
0 respondents somewhat agree
1 respondent disagrees
1 respondent strongly disagrees

5 **The information presented flows logically.** Average 4.20
4 respondents strongly agree
4 respondents agree
2 respondents somewhat agree
2 respondents disagree
0 respondents strongly disagree

6 **The imagery of the poster is attention-grabbing.** Average 4.20
4 respondents strongly agree
4 respondents agree by
3 respondents somewhat agree
1 respondent disagrees
0 respondents strongly disagree

Evaluation Results for Poster C

Long Duration
continued

7 **The sponsor of the poster is easy to see.** Average 4.27
4 respondents strongly agree
5 respondents agree
2 respondents somewhat agree
0 respondents disagree
1 respondent strongly disagrees

8 **The text is easy to understand regardless of native language.** Average 4.63
6 respondents strongly agree
3 respondents agree
6 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

9 **The text size is easy to read.** Average 4.46
5 respondents strongly agree
5 respondents agree
1 respondent somewhat agrees
0 respondents disagree
1 respondent strongly disagrees

10 **The font style is easy to read.** Average 4.27
5 respondents strongly agree
4 respondents agree
0 respondents somewhat agree
3 respondents disagree
0 respondents strongly disagree

11 **The poster requests funds for children's education in Madagascar.** Average 4.10
10 respondents agree by marking yes.
2 respondents disagree by marking no.

12 **The message is straightforward.** Average 3.63
8 respondents agree by marking yes.
4 respondents disagree by marking no.

13 **The poster successfully gives hope for children in Madagascar.** Average 4.00
9 respondents agree by marking yes.
3 respondents disagree by marking no.

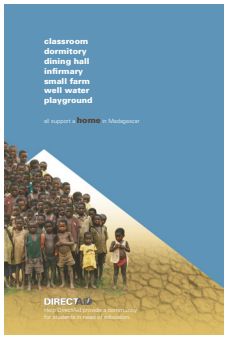
Evaluation Results for Poster C

Long Duration
continued

14	**The poster informs society about:**	
	The need for children's housing	41%
	DirectAid's mission and goals	18%
	The lack of education in Madagascar	41%
15	**The subject matter of the poster is:**	
	Housing	18%
	Education	64%
	Food	18%
16	**Children in Madagascar need**	
	Food	9%
	Home	33%
	Education	58%

Evaluation Results for Poster C

Frequency



1 **The visuals are relevant to children's needs.** Average 4.20
6 respondents strongly agree
3 respondents agree
1 respondent somewhat agrees
0 respondents disagree
1 respondent strongly disagrees

2 **The colors suggest African culture.** Average 3.54
4 respondents strongly agree
1 respondent agrees
4 respondents somewhat agree
1 respondent disagrees
1 respondent strongly disagrees

3 **The design decisions convey the seriousness of the issue.** Average 3.54
4 respondents strongly agree
2 respondents agree
2 respondents somewhat agree
2 respondents disagree
1 respondent strongly disagrees

4 **The text of the poster is eye-catching.** Average 4.27
6 respondents strongly agree
3 respondents agree
1 respondent somewhat agrees
1 respondent disagrees
0 respondents strongly disagree

5 **The information presented flows logically.** Average 4.45
6 respondents strongly agree
4 respondents agree
1 respondent somewhat agrees
0 respondents disagree
0 respondents strongly disagree

6 **The imagery of the poster is attention-grabbing.** Average 4.45
6 respondents strongly agree
4 respondents agree
1 respondent somewhat agrees
0 respondents disagree
0 respondents strongly disagree

Evaluation Results for Poster C

Frequency
continued

7 **The sponsor of the poster is easy to see.** Average 4.72
8 respondents strongly agree
3 respondents agree
0 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

8 **The text is easy to understand regardless of native language.** Average 4.81
9 respondents strongly agree
2 respondents agree
0 respondents somewhat agree
0 respondents disagree
0 respondents strongly disagree

9 **The text size is easy to read.** Average 4.63
10 respondents strongly agree
0 respondents agree
1 respondent somewhat agrees
0 respondents disagree
1 respondent strongly disagrees

10 **The font style is easy to read.** Average 4.63
10 respondents strongly agree
0 respondents agree
1 respondent somewhat agrees
0 respondents disagree
1 respondent strongly disagrees

11 **The poster requests funds for children's education in Madagascar.** Average 2.27
5 respondents agree by marking yes.
6 respondents disagree by marking no.

12 **The message is straightforward.** Average 5.00
11 respondents agree by marking yes.
0 respondents disagree by marking no.

13 **The poster successfully gives hope for children in Madagascar.** Average 4.59
10 respondents agree by marking yes.
1 respondent disagrees by marking no.

Evaluation Results for Poster C

Frequency
continued

14	**The poster informs society about:**	
	The need for children's housing	55%
	DirectAid's mission and goals	36%
	The lack of education in Madagascar	9%
15	**The subject matter of the poster is:**	
	Housing	64%
	Education	36%
	Food	-
	Children in Madagascar need	
16	Food	-
	Home	55%
	Education	45%

Summary

Challenges

During the evaluation process several problems were revealed. Primarily, there was a shortage in the number of evaluators who use Arabic as their first language, which was found to be the case in Rochester. As a result, nearly each of the evaluators were students at the English Language Center; so in some cases the level of English language comprehension was not good enough to understand either the written message on the posters or the questions. Therefore, the responses were not as precise as desired. The responses were in the neutral range for the majority of all three design solutions and also on the impact of different time components. However, there were some conclusions that could be formed from these results that are considered definite and important.

Evaluation Results

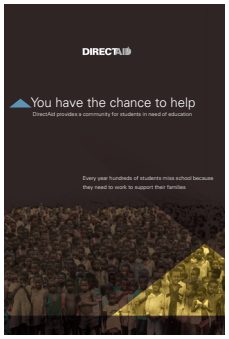
Based on the responses from the questionnaire, it was clear that the comprehension of the three posters varied under the effect of the different time components (brief duration, long duration, and frequency) between the scale of very weak, weak, good, very good, and excellent.

	Poster A	*Poster B*	*Poster C*
Brief Duration	Good	Good	Very Good
Long Duration	Very Good	Good	Very Good
Frequency	Very Good	Good	Very Good

The table above summarizes the impact of the three time components on each poster. the following pages provide further evaluation summaries for each poster design.

Summary *continued*

Poster A



Based on the responses to the questionnaire shown on page 66, there were clear agreements from the evaluators about the subject matter for poster A, providing houses in Madagascar is needed in order to support education. This conclusion came from the evaluators' ability to understand the written message of the poster. In addition, there was an agreement among evaluators about the imagery, which successfully presented children's needs. However, the evaluators could not distinguish which need was being conveyed, because the imagery was not directly connected to education. In addition, even though the poster's colors were chosen to present an earthy palette, the evaluators did not find a strong connection between these colors and African culture. However, in spite of the fact that the poster was very dark, 60% of the evaluators declared that the message was hopeful as related to children in Madagascar.

The effect of time components:
The following results show that levels of comprehension were infuluenced by the various ways the poster was exposed to the viewer.

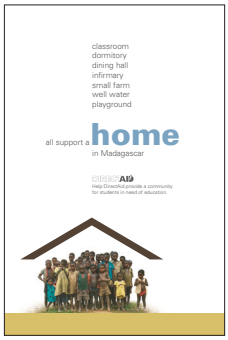
Short Duration
When poster A was exposed to the evaluators for a short amount of time (less than 5 seconds), they were able to recognize the general subject matter of the poster, which is the need for education.

Long Duration
By increasing the amount of time that the evaluators were able to observe the design solution (poster A) the level of comprehension increased, and understanding of the relationship between the lack of education and the need for housing was clearer.

Frequency
When Poster A was exposed to the evaluators multiple times for brief periods (5 seconds each), the evaluators were not able to digest the written message it along with the visual message. They perceived the idea of needing help in Africa, but they did not have a clear understanding of its purpose. The viewing repetition of poster A for multiple brief times was not helpful in delivering a message.

Summary *continued*

Poster B



By analyzing the responses for poster B, a clear understanding of the message was shown from the evaluators, which is that housing and shelter are needed in order to provide Madagascar's children with some level of education. This result guides the researcher toward the power of graphical shapes, and in this case, those which mimic the roofs of houses and shelters. In addition, the white background helped highlight the word "home" and increases the emphasis on the need for housing in poster B.

From their responses to the questionnaire, the evaluators were able to distinguish the sponsor of the poster (DirectAid). This gives the researcher an idea about the success of the mark's size, color, and position within the poster's composition. The color palette of this poster was questionable; the evaluators were confused about the connections between the color decisions within the poster and the cultural color palette of Africa.

The effect of time components:

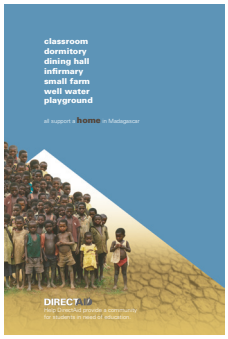
Short Duration
The simplicity of poster B received high complements and the evaluators were able to obtain the overall message.

Long Duration
Duration had a different effect on poster B, as the evaluators struggled with understanding the message. From the questionnaire, the simplicity of the design decisions, such as the selected color palette, limited imagry, and the white background, were not assisting in the comprehension of the message.

Frequency
The evaluators were confused about the subject matter of poster B even though they were exposed to it multiple brief time. The evaluators were not able to find a link between the need for housing and a shortage of education in Madagascar.

Summary *continued*

Poster C



Poster C's design decision clearly conveyed and delivered the intended message. From the evaluators' responses poster C was understood across the three different time tests. This supported the theory that poster C's design decisions were by far the most successful among the poster series.

The effect of time components

Short Duration

Over all, poster C receives a high rank on delivering a positive message for Madagascar's children hope. However, the evaluators were confused about the use of the color blue. The connection between the poster and African's cultural color palette was not identified.

Long Duration

The evaluators were able to understand the message of poster C, which is the need for housing as a means for Madagascar's children to attend school. In addition, by giving the evaluators the extra time to perceive the design solution, they were able to observe a second level of information, which relates to the *immediate* need for help.

Frequency

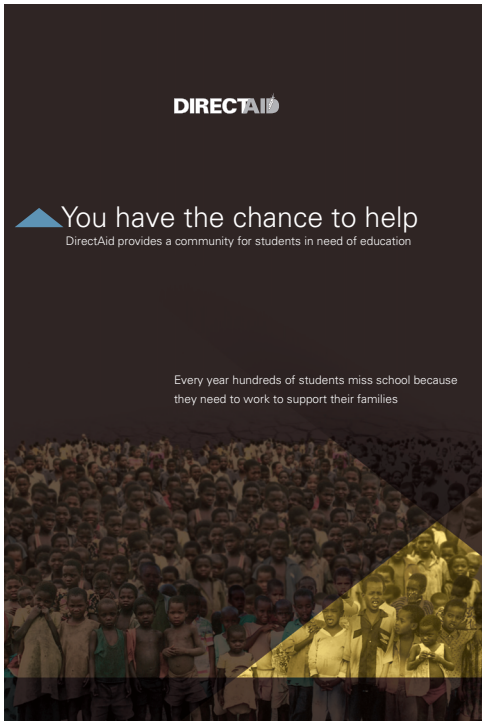
Multiple viewing of this poster improved the understanding of design decisions in poster C and delivered the message in a positive manner. The evaluators agreed that the graphical shape in the background, which mimics the roof shape of a house, was successfully integrated. In addition, the evaluators understood the message of the chosen imagery.

Introduction

The final designs for each of the three posters were modified with the implemented feedback from the thesis committee and the intermediate evaluation results (pages 66 through 89). For solutions A and B the improvements were made to the design decisions and the written message in order to deliver the message clearly under the effects of different time components, short duration, long duration, and frequency. For poster C, improvements focused on the visual aesthetics of the composition. All of these changes focus on improving message deliverance and are described on pages 94-96.

Design Modifications

Poster A



Intermediate Layout

Final Implementation

Visual Aesthetics

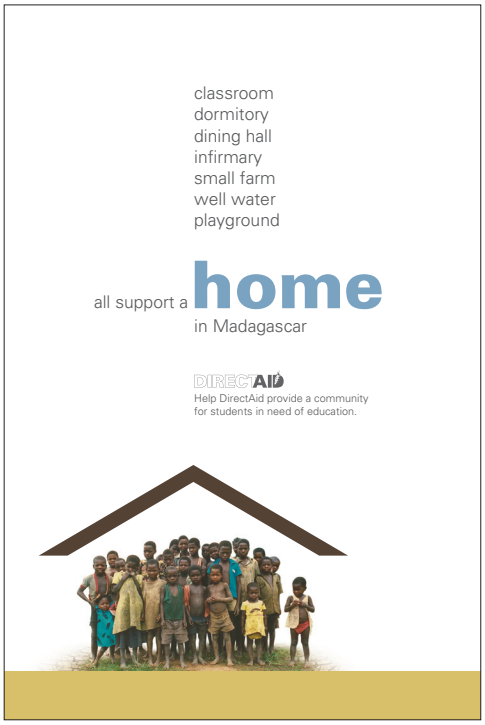
The dark color in the background was lightened to make the imagery more accessible to viewers. Imagery used in the poster was edited, and introduces a new photo to help deliver the message of education. The color palette was adjusted to make it more closely related to the African culture. The sponsor mark, DirectAid, was repositioned in a better location.

Typographic Decisions

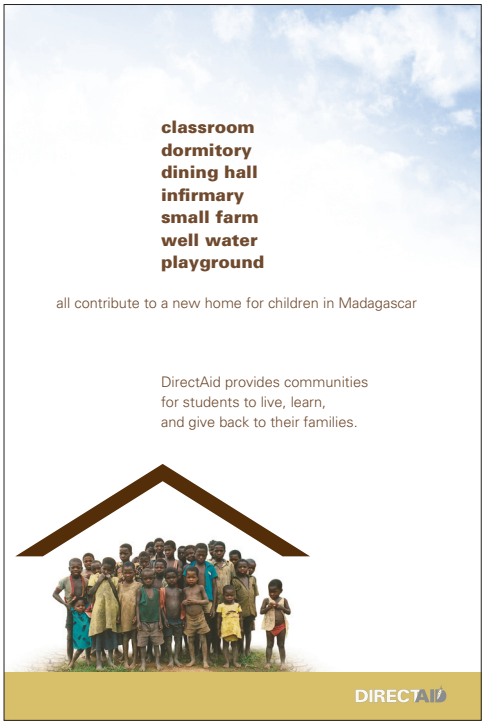
Edits in the hierarchy included an increase in font size, type weight, and new alignment positioning for the text. The actual written message was modified, so it more strongly conveys the subject matter and includes better sense breaks.

Design Modifications *Continued*

Poster B



Intermediate Layout



Final Implementation

Visual Aesthetics

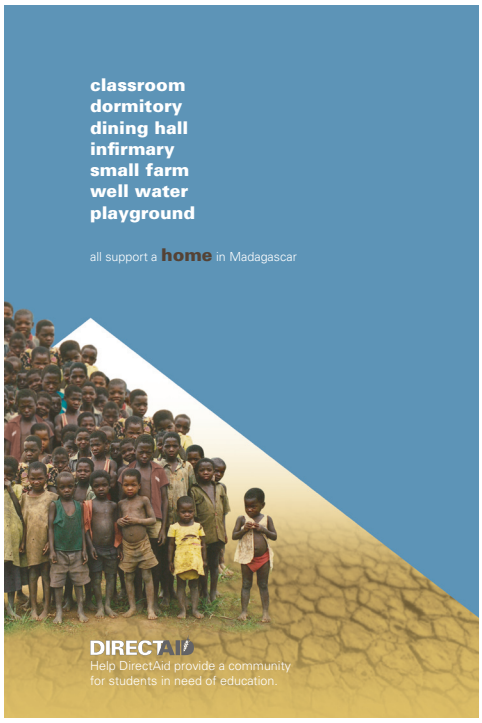
The dark color was lightened to make the graphic shapes more accessible to viewers. The color palette was adjusted to make it more closely related to African culture Imagery used in the poster was edited, and clouds were added to the top of the poster to add meaningful visual interest in the design solution, and convey hope for the student. The sponsor mark, DirectAid, was repositioned in a better location

Typographic Decisions

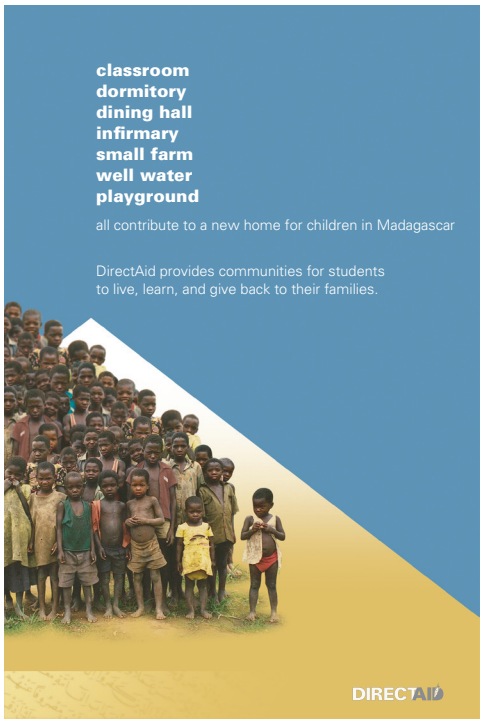
Edits in the hierarchy an included increase in font size, a bolder type weight, and new alignment positioning for the text. The actual written message was modified, so it more strongly conveys the subject matter and includes better sense breaks. The lest of the education's principles at the top edge of the composition were highlighted in a bolder weight to give more emphasis to the subject of education.

Design Modifications *Continued*

Poster C



Intermediate Layout



Final Implementation

Visual Aesthetics

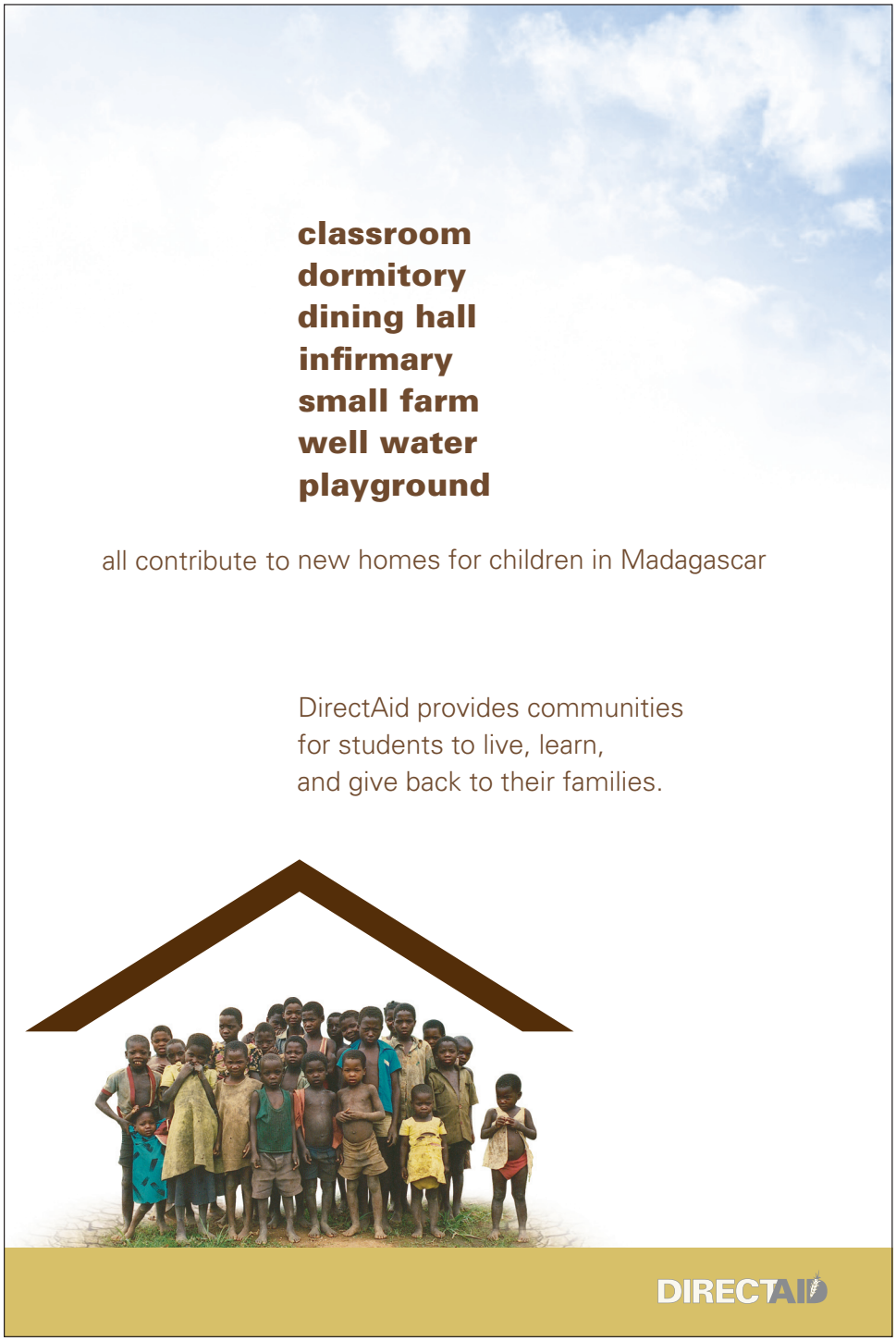
The background color was adjusted to represent hope in a more powerful way. Poster imagery was edited, and the patch of dry ground at the bottom left edge of the composition was replaced with a notebook sheet to better link the poster to the subject of education. The sponsor mark, DirectAid, was repositioned in a better location

Typographic Decisions

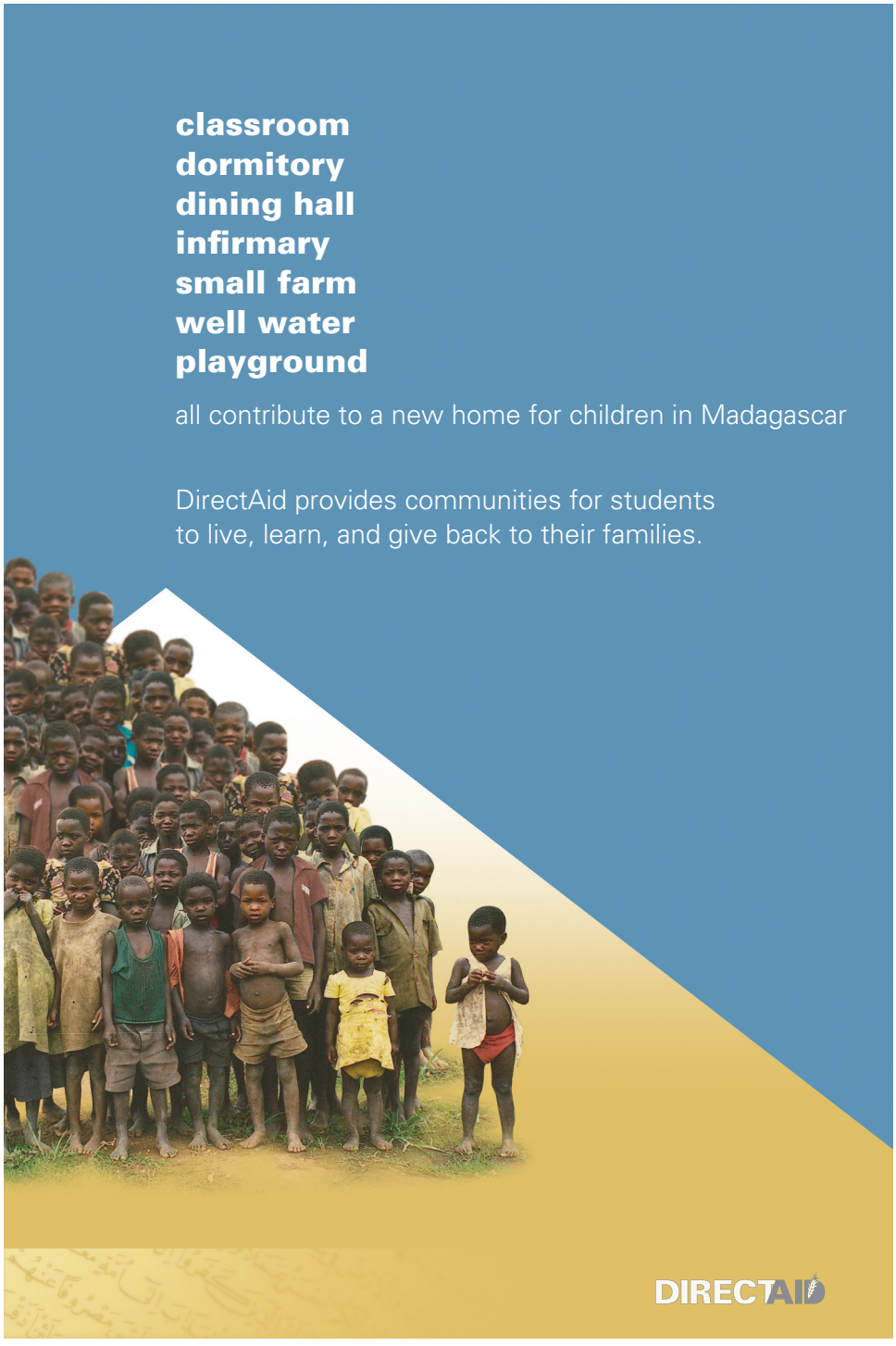
Edits in the hierarchy included an increase in font size, a bolder type weight, and new alignment positioning for the text. The actual written message was modified, so it more strongly conveys the subject matter and includer better sense breaks. The lest of the education's principles at the top edge of the composition were highlighted in a bolder weight to give more emphasis to the subject of education.

Final Design, Poster A

Final Design, Poster B



Final Design, Poster C



Introduction

The purpose of the retrospective evaluation was to look back and address the challenges of developing this thesis application. In order to test the comprehension of the message in the three posters affected by time variables, the final version of this thesis application went through the same process as in the intermediate evaluation phase. The evaluators were divided into three groups, each group tested two different posters in two different orders (see page 62 for further clarity). The purpose of this process was to ensure that all the posters were tested with different time components in mind, and the evaluators were only given each poster once.

Evaluation Process

In order to effectively test the message while analyzing the effects of viewing duration and frequency on the final layouts, the audience was no longer focused solely on native Arabs. Selecting native Arabs to evaluate the applications at the intermediate evaluation phase revealed limitations, such as the lack of comprehension of the poster's message, which was caused by the level of English skills of the evaluators, and the lack of availability of native Arabs (see page 90). Therefore, to have a reasonable timeframe for an evaluation answered by people whose first language is English, the Student Alumni Union at the Rochester Institute of Technology was selected as a suitable location. Twelve evaluators between the ages of 19 and 28 responded to the questionnaire. While the evaluators agreed the messages in the three posters were clear, the degree to which they understood the message varied based on the effects of the time components involved (brief duration, long duration, and frequency).

Results Summary

The level of viewer comprehension for the three final design solutions, posters A, B, and C, are as follows. These result were ranked very weak, weak, good, very good, or excellent.

	Poster A	*Poster B*	*Poster C*
Brief Duration	Very Good	Excellent	Very Good
Long Duration	Excellent	Very Good	Excellent
Frequency	Very Good	Excellent	Very Good

Significance to This Study

Across all three design solutions, the majority of respondents agreed that the visuals in each poster strongly helped to convey each intended message. Most respondents also agreed that each time variable had a different impact on the viewing of each poster. These findings support the premise of this thesis: addressing a solution with different design decisions in respect to viewing time and frequency greatly affects the communicated message.

The retrospective evaluation proved to be an important phase in this thesis study. It provided a basis for comparing the impact of time components, short duration, long duration, and frequency, on the final design application. However, in order to make the evaluation results even more reliable, the evaluation questions need alteration to be clearer and more focused, and should be given to a wider range of participants.

Self Evaluation

Understanding graphic design variables, analyzing the components of ambiguous message-making, and exposing the effects of time components on visual communication all helped the designer to create meaningful design solutions. The researcher's assessment is that the final applications of this thesis successfully delivered their intended messages as proven by the responses of the retrospective evaluation. However, as with any design solution, these are strengths, weaknesses, and areas for future improvement.

Strengths

The design application of this thesis delivered different degrees of comprehension via the effects of the selected time components. The goals of delivering each intended message were achieved through the described design decisions. The comprehension of these visual communication solutions was affected by not only the different viewing situations, but also by the impact of the final graphic design decisions.

Weaknesses

The final design application implemented imagery from DirectAid's archive, but further improvements and additional opportunities could be extended to the design solution if the imagery was specifically taken for this project. Working with existing,"stock" photography was a necessary constraint of this project.

In addition, the evaluation process would be greatly improved if divided into the following two stages:

Stage One
This will improve the success of communication for several design solutions by having a group of viewers evaluate various solutions with different design decisions (typography, imagery, color, etc.). This will help select a design composition that clearly conveys the subject matter. By isolating each design decision, it will be more evident which are strong and which are weak prior to testing the time considerations.

Stage Two
A different set of evaluators will follow the same evaluation process described in the Intermediate Evaluation section to test the selected composition and discover the effects of different time components on the visual communication. With the strongest design decisions previously tested separately, the success of the overall composition will increase. This will also help isolate and prioritize the impact of time components, so the researcher can focus on these rather than the design elements.

Future Refinements

There are a few ways in which this thesis application could be improved. The application would be even stronger if created by a team of professionals: a graphic designer, an expert on Madagascar, and a staff member from DirectAid, familiar with the working system of this non-profit organization. Secondly, poster text would be translated into Arabic in order to better reach Kuwaiti and Arabic speakers, the original target audience (as mentioned on page 90). Finally, the application evaluation process would be implemented online in order to yield a larger number of native Arab evaluators outside of the Rochester, NY area. An additional goal would be to seek out native Arab evaluators that have not yet been exposed to western culture in order to test the intended concepts, communication goals and related design decision within each poster solution.

Thesis Exhibition

The MFA Thesis Exhibition was installed at the Bevier Gallery, Rochester Institute of Technology, on March 17, 2008. Ten panels presented the body of the work for this thesis study in the following sequence:

Panel 1	The overall project definition, including the explanatory diagram
Panel 2	Precedents and associated areas of study
Panel 3	An introduction for the research panels
Panel 4	Definition of the ambiguous message
Panel 5	Definition of the process of perception
Panel 6	Definitions of the time components and their effects on visual communication
Panel 7	Examples from the synthesis phase
Panel 8	Introduction to the ideation panels
Panel 9	The ideation process in progress
Panel 10	The ideation process in progress, continued

MFA Thesis Exhibition
RIT Bevier Gallery, 2008

The MFA Thesis Exhibition lasted for three weeks, and was shared with other masters candidates three schools in the College of Imaging Arts and Sciences: School of Design, School for American Crafts, and School of Art.

Thesis Peer Presentation

A formal presentation of this thesis process was shared with the peers and faculty of the Graduate Graphic Design MFA Program in the School of Design, on May 8, 2008. The thesis process was described using a digitally projected presentation to include content related to the project definition, precedents, research, synthesis, ideation, intermediate evaluation, and implementation in progress. During the presentation, both the first year students and faculty provided feedback and questions that helped this study to become clearer and more cohesive as it proceeded to its final stages.

Future Dissemination

This thesis documentation will be available as a printed, bound document in the Wallace Library at the Rochester Institute of Technology; and in the Embassy of the State of Kuwait, Kuwait University Office, the Kuwait University Central Library, and the Kuwait College for Women Library.

The researcher will attempt to publish excerpts of this thesis in articles within well-known design publications. Such publications will include but are not limited to communication Atrs, How, Good, and ArabAd. These magazines are read and distributed to audiences which include graphic designers, art directors, and those who have related, such as marketing planners. The excerpts will acknowledge and share the importance of the roles of time components on the improvement of audience perception.

This thesis study and the final conclusions related to the roles of time components could be condensed and presented in a formal presentation that targets not only graphic designers, but also non-profit organizations working on issues related to Africa and/or children's education.

Examples of Relevant Non-Profit Organizations

DirectAid

www.direct-aid.org

DirectAid, a non-profit organization located in Kuwait was launched in 1982 by Dr. Abdo Alrahman Alsumait. It has active projects in Africa related to education, aid, and development of the abilities of poor African societies. DirectAid's mission is to raise money to help reduce illiteracy, hunger and poverty.

Dubai Cares

www.dubaicares.ae

Dubai Cares is a non-profit organization launched by His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the U.A.E. and Ruler of Dubai, to raise money to help educate one million children across poor countries. The campaign is Dubai's contribution to the United Nation's Millennium Development Goals for providing primary education to every child by 2015, and expresses the emirate's will to play an effective role in securing a better tomorrow for future generations.

Before this thesis study was started, it was clear that there was some connection between graphic design message-making and specific aspects of timing related to the viewing experience. This study was done in order to find out the impact these time variables have on design communication. While no two people will perceive the exact same message from one solution, time considerations have proven to be useful tools for the designer to use achieving desired results.

Although the effect of time on message comprehension will differ from viewer to viewer, if this critical aspect is disregarded in the design process, confusion or inaccuracy can severely impact communication goals. Implementation of design decisions should keep these time components in mind. The outcome of the evaluation processes in this study showed that time, frequency, and duration can be used to better direct the message to the viewer.

At the close of this study, it is realized there are ways in which the project could be improved. In the timeframe given, three final applications were sufficient to test the effect of time components on graphic design. However, a grater number of applications would improve the evaluation process. Along with this, an increase in the number of evaluators would also assist in the accuracy of the testing. Instead of creating posters in only one language, English, and testing them among Arabic speakers, a more beneficial method would be to create two series in two languages and test between appropriate audiences. Finally, there should be an online version to reach a wider range of participants, further increasing the value of the responses.

Many important initial goals were met over the course of this project. A concrete connection between time components and viewer perception was made. Further, the different effect each design element has on the design solution was understood. This study resulted in a clear demonstration of how ambiguous messages are formed and how they impact the audience. Lastly, the most important goal of this thesis study was met: deliberately using the impacts of timing considerations toward designing for a meaningful cause.

This study has made a valuable contribution in the field of graphic design by offering a clear analysis of time considerations and the influence they have on message perception. Understanding the complexity of ambiguous messages will help designers use time components more effectively as they strive to reach their intended audiences.

Over the course of the year in which this study took place, several important lessons were learned. The phases of Research and Precedents proved to be important in how they allowed for better understanding of areas that were critical to the effect of timing on graphic design. Several of these areas included Gestalt Principles, Rhetorical Operations, and the understanding of Perception Channels. The understanding of these three subjects allowed for a stronger contribution to be made in this study. The evaluation stage proved itself to be very important to this design process. It allowed for the evaluators to bring overlook problems to the designer's attention in order to make the solution stronger.

Originally when the thesis topic was chosen, one challenge was placing significance on the intangible element of time. It was uncertain how concrete the findings could be, or how valuable this study would be to the graphic design discipline. One of the main lessons learned was that an intangible aspect such as time should be given equal consideration with as other design tools like color, typography, imagery, and so on. It is the responsibility of the designer to become educated about the forces that contribute to perception, and use all tools available to design meaningfully, clearly, and effectively.

Aesthetic
A set of principles underlying and guiding the work of a particular artist or artistic movement.

Ambiguous Message
Uncertainty of meaning outcome of complex causes that gives a choice between different paths of comprehension. In the end it eventually guides viewers toward a single understanding.

Audience
The receivers of the graphic design problem, individuals or groups, to which the message is directed.

Clear Message
Easy to understand, free from any obstructions that cause confusion.

Composition
The layout or arrangement of elements within a format. It may be either formal (symmetrical) or informal (asymmetrical). An organization method must be used in determining how the composition works in communicating a message.

Concept
The idea which underlies a design image and provides direction for its development and functions.

Content
Refers to the specific information that is communicated by the form.

Context
The environment in which the form is created.

Gestalt
Gestalt means a configuration with properties not divergent from the sum of its individual parts.

Iconic
Icons are realistic representations of objects or things in the form of simplified illustrations or photographs that communicate quickly (Hembree 16).

Image
An artistic representation of the external form of a person or thing.

Indexic
A suggestion of the subject without actually showing it (i.e., smoke rising over trees implies fire).

Multi-exposure (photographic)
A photographic technique that involves showing more than one image within a single frame

Pragmatic
Dealing with things sensibly and realistically in a way that is based on practical rather than theoretical considerations.

Semantic
Related to the meaning of visual objects.

Semiotics
Semiotics is the study of sign and symbols and their impact on communication and language. Signs and symbols help designers convey unique messages through shared experience and meaning, and are one of the most effective tools used in communication (Hembree 16).

Syntactic
The arrangement of words and phrases.

Time
A continued progression of actions in the past, present, and future observed in one piece.

Time Components
The sum components of time: timing, duration, frequency, tempo, and pacing, all of which are analyzed in this thesis.

Timing
Timing is not only a point at which something happens, but also the choice of control when something should be exposed in order to get the ideal implementation.

Vague message
Unclear meaning; information could not be understood.

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Image Credits

Figure 1.1
Figure 1.2

Holland, DK. *Design Issues; How Graphic Design Informs Society.* USA: Allworth Press, 2001. P 220, 222.

Figure 1.3
Figure 1.4
Figure 1.5

Baker, Andrew Dennis. *Visual Design System for Music Education.* New York: Rochester Institute of Technology, 2004. P 52, 53, 54.

Figure 1.6
Figure 1.7

Whitaker, Harold; Halas, John. *Timing for Animation.* USA: Focal Press, 2002.

Figure 2.1

Hembree, Rayn. *The Complete Graphic Designer.* China: Rockport, 2006. P 14

Figure 2.2

Garland, Ken. *Mr. Beck's Underground Map.* England: Capital Transport Publishing 1994.

Figure 2.3

Meader, Bruce; Beardslee, Deborah. *Semiotic Model.* Rochester Institute of Technology, School of Design, 2006.

Figure 2.4
Figure 2.5
Figure 2.6

Wodtke, Mark von. *Mind Over Media; Creative Thinking Skills for Electronic Media.* USA: McGraw-Hill, 1993. P 54, 55, 56,58, 59.

Figure 2.7
Figure 2.8

Ernst, B. *Optical Illusions.* New York: Taschen, 1996.

Figure 2.9

Zakia, Richard D. *Perception and Imaging.* USA: Focal Press, 2002. P 216

Figure 3.1

Wodtke, Mark von. *Mind Over Media; Creative Thinking Skills for Electronic Media.* USA: McGraw-Hill, 1993. P 59.

Appendix A

Intermediate Evaluation / Questionnaire, page one

Poster Series Questionnaire

Ahmad Aloumi
MFA Candidate

Evaluator Background

Age _____ Occupation _____ Native Language _____

Home Country _____ Years living in USA _____

Poster Evaluation

Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank. Please fill in your responses to the following statements based on the poster designs you have reviewed.

Poster A, part one.

		Disagree				*Agree*
1	The design implies a positive message.	①	②	③	④	⑤
2	The design presents the issue of children's needs.	①	②	③	④	⑤
3	The imagery presents an issue of children's education.	①	②	③	④	⑤
4	The colors are attractive.	①	②	③	④	⑤
5	The written message is clearly understood.	①	②	③	④	⑤
6	The poster is sponsored by:	○ Unicef		○ DirectAid		○ Children First
7	The subject matter of this poster is:					

○ Starvation ○ Water shortage ○ Housing or shelter ○ Lack of education ○ Various diseases ○ Other: ---------- *(please specify)*

Poster A, part two.

		Disagree				*Agree*
1	The visuals are relevant to children's needs.	①	②	③	④	⑤
2	The colors suggest African culture.	①	②	③	④	⑤
3	The design decisions convey the seriousness of the issue.	①	②	③	④	⑤
4	The text of the poster is eye catching.	①	②	③	④	⑤
5	The information presented flows logically.	①	②	③	④	⑤
6	The imagery of the poster is attention grabbing.	①	②	③	④	⑤
7	The sponsor of the poster is easy to see.	①	②	③	④	⑤
8	The text is easy to understand regardless of native language.	①	②	③	④	⑤
9	The text size is easy to read.	①	②	③	④	⑤
10	The font style is easy to read.	①	②	③	④	⑤
11	The poster requests funds for children's education in Madagascar.	Ⓨ	Ⓝ			
12	The message is straightforward.	Ⓨ	Ⓝ			
13	The poster successfully gives hope for children in Madagascar.	Ⓨ	Ⓝ			

Please check one answer in each row

14 The poster informs society about:

○ The need for children's housing ○ DirectAid's mission and goals ○ The lack of education in Madagascar

15	The subject matter of the poster is:	○ housing	○ education	○ food
16	Children in Madagascar need:	○ Food	○ Home	○ Education

Comments Overall? ----------

Appendix A

Intermediate Evaluation / Questionnaire, page two

Poster Series Questionnaire (continued)

Poster B, part one.

		Disagree				Agree
1	The design implies a positive message.	①	②	③	④	⑤
2	The design presents the issue of children's needs.	①	②	③	④	⑤
3	The imagery presents an issue of children's education.	①	②	③	④	⑤
4	The colors are attractive.	①	②	③	④	⑤
5	The written message is clearly understood.	①	②	③	④	⑤

6 The poster is sponsored by: ○ Unicef ○ DirectAid ○ Children First

7 The subject matter of this poster is:

○ Starvation ○ Water shortage ○ Housing or shelter ○ Lack of education ○ Various diseases ○ Other: ---------- *(please specify)*

Poster B, part two.

		Disagree				Agree
1	The visuals are relevant to children's needs.	①	②	③	④	⑤
2	The colors suggest African culture.	①	②	③	④	⑤
3	The design decisions convey the seriousness of the issue.	①	②	③	④	⑤
4	The text of the poster is eye catching.	①	②	③	④	⑤
5	The information presented flows logically.	①	②	③	④	⑤
6	The imagery of the poster is attention grabbing.	①	②	③	④	⑤
7	The sponsor of the poster is easy to see.	①	②	③	④	⑤
8	The text is easy to understand regardless of native language.	①	②	③	④	⑤
9	The text size is easy to read.	①	②	③	④	⑤
10	The font style is easy to read.	①	②	③	④	⑤

11	The poster requests funds for children's education in Madagascar.	Ⓨ	Ⓝ
12	The message is straightforward.	Ⓨ	Ⓝ
13	The poster successfully gives hope for children in Madagascar.	Ⓨ	Ⓝ

Please check one answer in each row

14 The poster informs society about:

○ The need for children's housing ○ DirectAid's mission and goals ○ The lack of education in Madagascar

15 The subject matter of the poster is: ○ housing ○ education ○ food

16 Children in Madagascar need: ○ Food ○ Home ○ Education

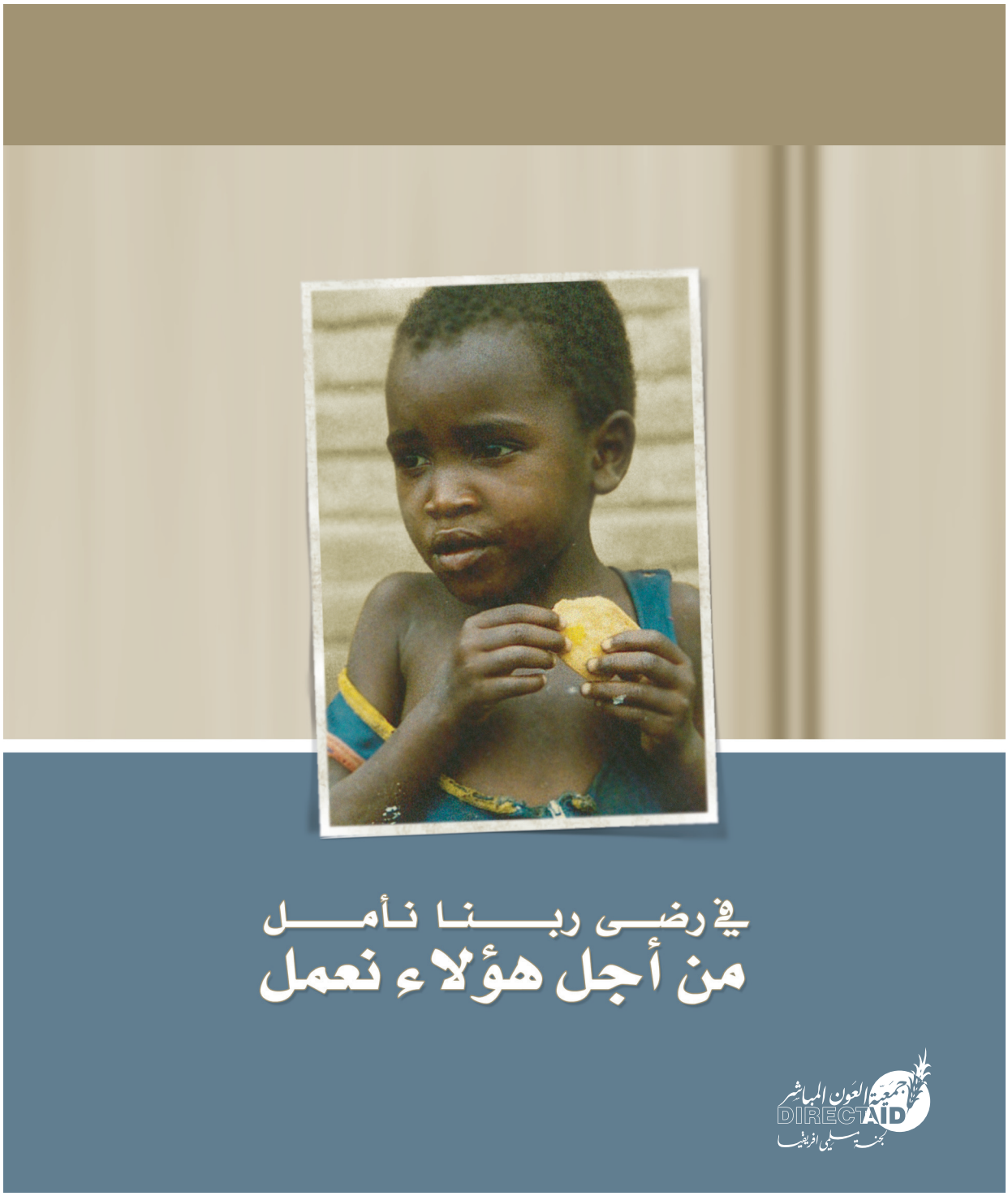
Comments Overall? ----------

Appendix B

DirectAid's existing posters / Example one

Appendix B

DirectAid's existing posters / Example two



Appendix C
MFA Exhibition Panels / Panel 1

The Effects of Time & Timing on Visual Communication

Ahmad Eissa Aloumi
Masters Candidate
Graphic Design MFA Program

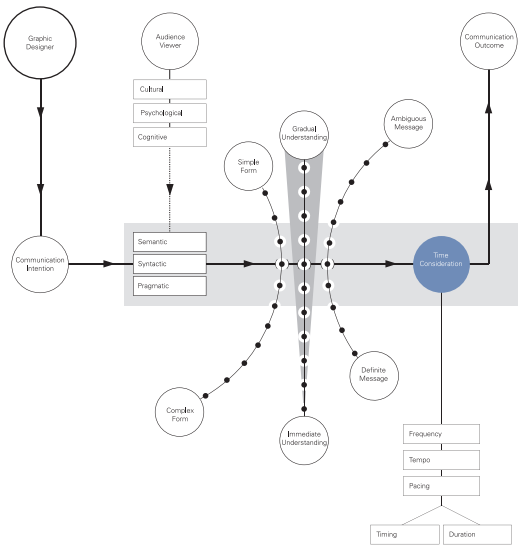
Problem Statement

Viewers are surrounded by visual stimuli on a daily basis. These visuals, which may have intriguing and/or exciting qualities, enable designers to propose effective design solutions that could have heightened impact. With this in mind, some designers attempt to construct crystal-clear messages that are eye-catching and easily understood, while other designers may try to deliver messages enveloped by a planned ambiguity, which offer diverse paths of comprehension. In the end this intentional ambiguity can eventually guide viewers toward a single understanding.

Since ambiguity is an outcome of complex principles related to aesthetic and conceptual decision making, often it is not immediately understood. However, in order to understand ambiguous messages, viewers are affected by both time, which is the indefinite continued progress of existence and actions in the past, present, and future, and timing, which is the choice or control of when something should be exposed. Designers should be aware of the affect of time on perception in relation to ambiguous message-making, especially when immediate understanding is required. An example of this would be a solution related to information design such as transportation map of London underground, in which the immediacy of communication could affect human lives.

This thesis study will focus specifically on time considerations as they impact the understanding of intentionally ambiguous messages. This thesis will also analyze the value of other time considerations such as frequency and duration. Understanding these aspects can potentially inform the integration of time considerations within the graphic design decision-making process.

Explanatory Diagram



Key Questions

1 What are the differences and similarities between time and timing?

2 How do variables of time and timing affect viewer perception? For example, will a viewer understand a message differently after one prolonged exposure versus multiple brief exposures?

3 Could time or timing change the degree of ambiguity in a message? How?

4 What are the differences and similarities between the terms *vague* and *ambiguous*?

5 What are the benefits of an initially ambiguous design solution?

6 Which visual factors affect audience perception? Why?

Appendix C
MFA Exhibition Panels / Panel 2

Associated Areas of Study

Graphic Design
Finding the best solution for a problem within the combination of text, imagery, and problem solving.

Book Design
Designing the sequence of flipping the pages of a book to get to the tempo.

Marketing Studies
Relationships between the target audience, brand, and the use of time.

Music Theory
To analyze the musical elements (rhythm) and understand their connections with the time consideration, and how music deals with this aspect.

Information Design
The visual display of information. A study of the design strategies that communicate information to a target audience.

Communication Studies
Relationships between the designer, message, and audience.

Psychology Studies
An understanding of the nature of audience behavior, perception, thinking, and learning.

Film & Animation
The use of time and timing in story-telling, especially how time considerations affect the intended message.

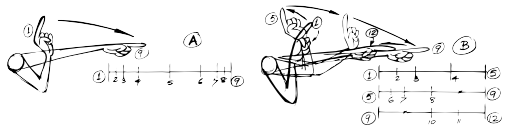
Precedents

Timing for Animation **By Harold Whitaker & John Halas**

Time and timing are considered important elements in the field of animation because they both give meaning to animated story. Time decisions must always be made before the start of the production. This is because the animator and the director set the simplicity or complexity of the movement based on how much time is allowed for each scene. The more layers of complexity on the stage the more time is needed in order to give the viewer a smooth comprehension.

The animator's job is to synthesize movement and to apply just the right amount of creative exaggeration to make the movement look natural. (Whitaker) A good way to apply the right amount of creative exaggeration is to know the definite period of time,in order to decide upon the exact number of details within a number of frames. The constant projector speed of 24 frames per second is used as a basic foundation. If, therefore, something moves from A to B in 6 frames, the drawings required to do this are spaced twice as far apart as they would be if the object moved from A to B in 12 frames, assuming single frame animation is used in both cases.

The following example shows how the number of frames affects the level of details in examples A and B. In example A, the hand movement change in only 2 frames whereas in example B the hand movement takes 6 frames to change.

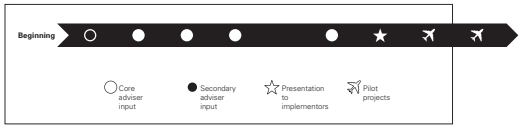


Timing for Animation is an important precedent for this thesis study, because it acknowledges that time components are central in the field of film and animation. It states the importance of setting the time for each scene, action, and movement before the crew starts producing, since the scene's complexity, to some degree, predetermined by the given time. In addition, the author mentions that the numbers of frames affects the simplicity and the complexity of each scene and this formula has strong connections to this thesis study and this will be expanded more in the synthesis section for more clarity and further understanding.

Mirror, Mirror **By Peter Laundy**

The author declares that the designer's responsibility is not to use the prototype (the early primary model) to help clients see things they could do but to use the prototype to help clients see what their companies could become in the future. Time is an essential factor in this exploration.

The author demonstrates the use of time from a different standpoint. He shows how time can be a medium for the clients to understand new ideas and to make the changeing of these ideas easier. In addition, the article includes interesting illustrations that demonstrate how the development can be achieved and how time can affect it in order to get completion over the time.

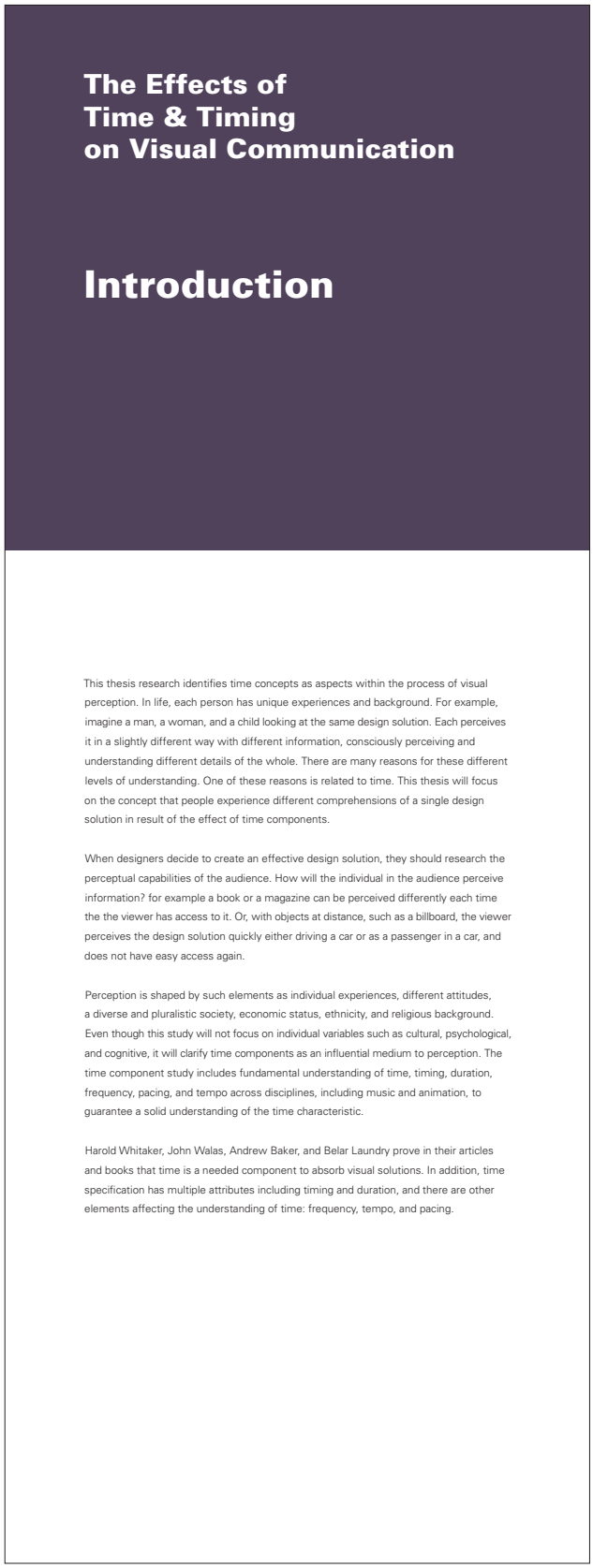


This illustration shows the process of the prototype and how it affects the act of transforming ideas. The prototype works best early in the early stages (before big decisions get made), helping executors move beyond abstractions and understand the solid implications of the changes they are contemplating.

Mirror, Mirror is a strong precedent for this thesis study because it asserts that time is an essential factor to explore, and with the consideration of time, the transformation of the ideas can be easier and more helpful to clients. In addition, by considering the time component, the change can be more meaningful and understandable.

Appendix C

MFA Exhibition Panels / Panel 3



Appendix C

MFA Exhibition Panels / Panel 4

Ambiguous Messages

In his book *Thinking, Problem Solving, Cognition*, Richard E. Mayer describes perceptually ambiguous visuals, specifically, how ambiguous visual messages were of special interest to the Gestaltists. He also mentions how Artists have been fascinated by this perceptual fact. Perceptually ambiguous visuals are of special interest in the investigation of thinking because ambiguous design solutions exemplify the fact that sometimes the same perceptual input can lead to multiple levels of different representations. Gestaltists took this as suggesting that the mind was actively involved in interpreting the input.

What is ambiguous design?

In his book *Perception and Imaging*, Richard Zakia explains how an ambiguous message as a design solution can take on multiple meanings through language of the message. Here, the designer can play with words that sound the same but have different meaning, such as

made/maid **rain/reign** **board/bored**

or by the visuals of the words that look alike but have different meaning, such as

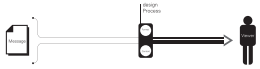
natural/neutral **angel/angle** **conservation/conversation**

Ambiguity extends to more than just words. It can also work with visuals, which can take the visuals from one layer of communication to multiple layers of meaningful message. Ambiguity adds interest to the design solution, and gives viewers different levels of meanings during the process of perceving a message over a period of time.

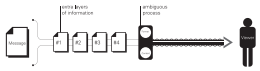
In this famous ambiguous figure it is possible to see either a young woman or an old woman. It is a drawing, and if you examine it in detail it will probably be rather hard to decide what all of the different components represent in each of the interpretations. Nose, hat, feather, ear, etc. are identifiable... but your mind seems to be imposing these interpretations on the drawing rather than being compelled by the "perceptual evidence"

Prof. Charles Schmidt, University of New Jersey

This diagram shows the process of designing a simple, straightforward design solution.



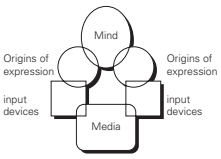
This diagram shows the process of designing an ambiguous message with multiple levels of meaning.



Appendix C

MFA Exhibition Panels / Panel 5

Perception



To create effective design solutions, graphic designers need to know in depth the perception abilities of the audience. Each viewer comes from a different discipline, which influences the way he/she looks, thinks, and interacts with perception. According to Mark von Wodtke in his book *Mind Over Media*, viewers have many channels of perception which include these channels: seeing, hearing, sensing, smelling, testing, moving. In addition, those channels help perceive and balance, information and emotion and motion. Viewers have different levels of understanding based on how they identify into. According to Wodtke, perception takes place in both awareness and comprehension stages. In addition, each channel of perception has primary perception (impressions) and secondary perception (images and understanding) levels.

How do time components affect visual communication?

The use of perception channels shorten the needed time to understand a design solution.

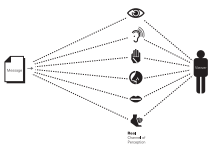
more channels in use = fast comprehension

Channels of perception

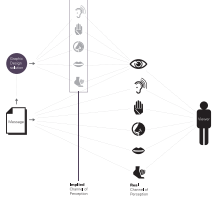
Sight **Smell** **Hearing**

Taste **Touch** **Movement**

Most graphic elements are visual elements, such as point size, line, size, shape, form, color, value, brightness, and texture. Thus, through graphic design solutions the channels of perception are divided into two groups, implied channels, which communicate with the viewer through real channel, which is sight. The diagrams show the process of sending and perceiving a non graphic design message and graphic design message.



The process of sending and perceiving message



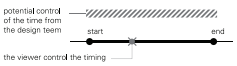
The process of sending and perceiving a graphic design message

Appendix C

MFA Exhibition Panels / Panel 6

Time Components

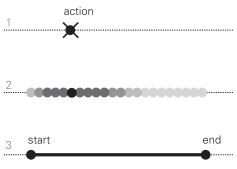
Harold Whitaker, John Walas, Andrew Baker, and Belar Laundry confirm that time is a necessary component for the absorption of visual messages. In addition, time specification has multiple attributes including timing, which is not only a point depictions when something happens, but also the choice or control of when something should be exposed in order to get the ideal implementation.



How are time components created?

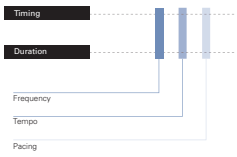
The example A clarifies each time component and the relationships between them for example, how timing (single action on a time line) is repeated over and over to create the duration. Then each characteristic of the time components has a relationship; however, frequency, tempo, and pacing are working as filters for timing and duration where they overlap each other to create the multiple differences in the time.

Example A



The transition from being a single action to duration has a start and end points.

Example B



The relationships between timing / duration and other time components, such as frequency, `tempo, and pacing.

Timing

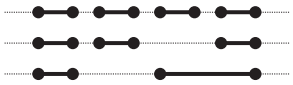
Timing is not only a point at which something happens, but also the control over when something should be exposed in order to get the ideal implementation.

Duration

Duration is one type of time mark in which action continues over a period of time; it has start and end points. In addition, duration has continuation in the past, present, and future.

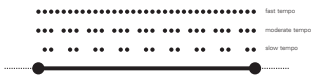
Frequency

Frequency is the amount of systematic or random repetition of a *duration* over a selected period of time.



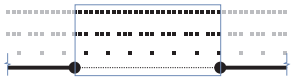
Tempo

Tempo is the number of units that control the speed or motion of an activity. There are three speeds of tempo: slow, moderate, and fast.



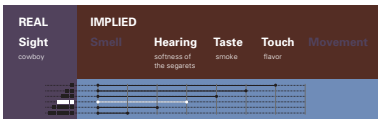
Pacing

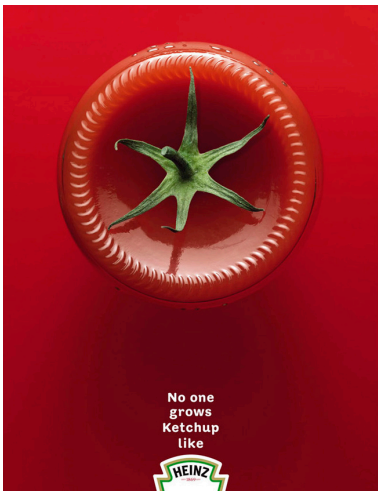
Pacing is the consistent and continuous speed of movement. It is the point on the timeline that can be compared through timepiece.

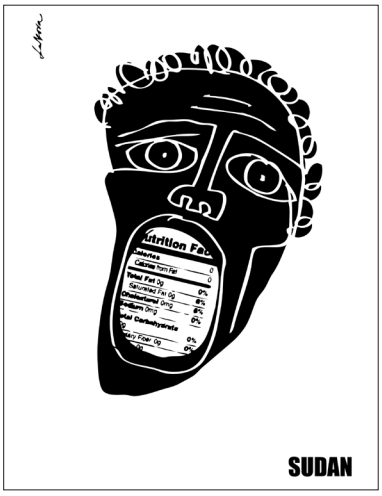


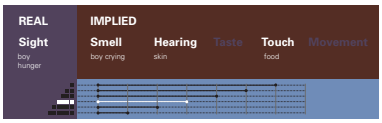
Appendix C

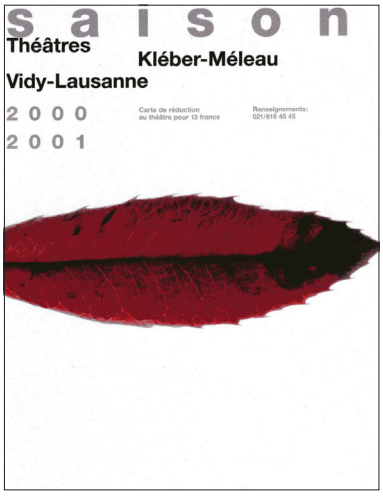
MFA Exhibition Panels / Panel 7

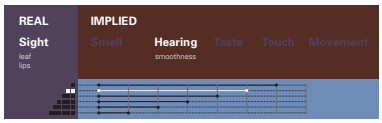


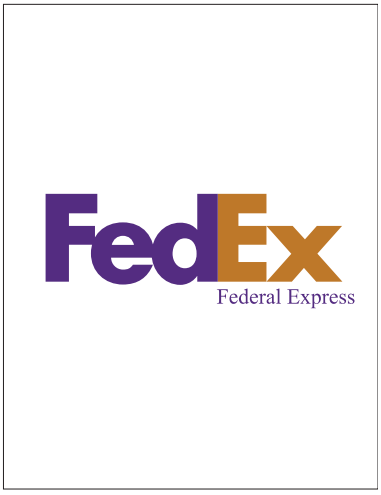


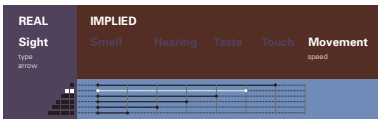






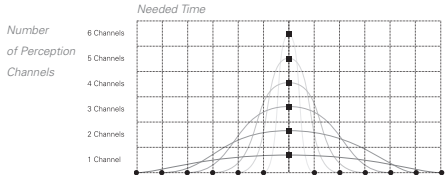






Design solution and perception process

Time components are involved in the perception process. The level of perception is based on the visual elements and is affected by the time components. These theories are synthesized into concept illustrations.



This chart shows the use of perception channels in excess of time components, which allow the message to be received immediately. Each time the designer uses more perception channels the number of time needed to understand

Appendix C
MFA Exhibition Panels / Panel 8

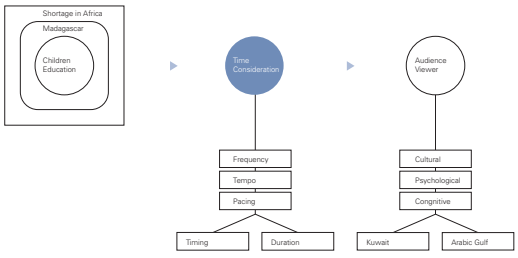
Appendix C

MFA Exhibition Panels / Panel 9

Children's Education

In Madagascar

Children's Education in Madagascar was chosen as the outside content of the final design application for this thesis study. Research related to the basic needs for children's education was gathered and analyzed. The effective use of time components will be explored to create a range of different levels of understanding, in order to prompt either immediate or gradual reaction from the viewing public.

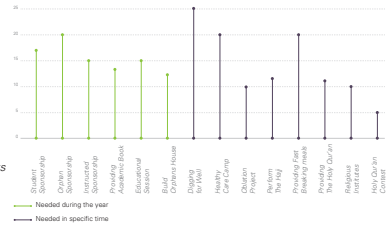


Information Source

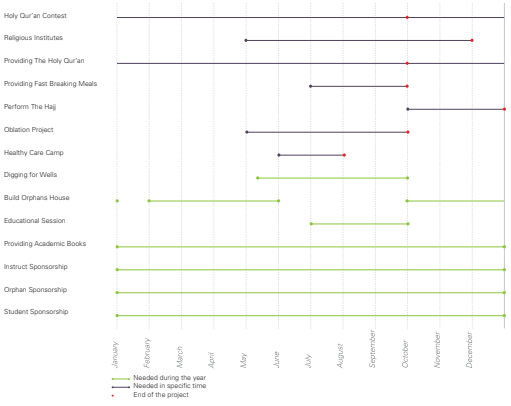
DirectAid, a non-profit organization located in Kuwait has active projects in Africa, including Madagascar. This organization had analyzes on selected projects including those related to the issue of children's education. The following chart shows the degree of needs for various requirements in Madagascar.

Degree of Need

DirectAid's Projects In Madagascar



The chart below organizes the projects over the calendar year based on need. Each project has its own requirements and demands related to time components such as the timing, start and end points, and the overall duration of each project. The organization of these different projects helps to clarify the messages that need to be delivered to the audience in order to get desired reactions.



Appendix C

MFA Exhibition Panels / Panel 10

Poster Series

This thesis research will be applied through a poster series in which each poster delivers the same intended end message with ranging degrees of ambiguity. Time and timing considerations will also be incorporated in the process of gathering and understanding optimal viewer understanding.

Problem

The current promotionals for the DirectAid organization are weak and ineffective in their use of graphic design elements and variables. Few of the design solutions employ consistency and the organization does not manage to visually communicate their goals to identified audiences in a timely manner in order to yield productive responses.

Audience

This design solution would be targeted toward educated people living in Kuwait or in the Arabic gulf area who have an interest in contributing toward solving problems in poor countries around the world.

Design Process

In the ideation stage of design process, one way to begin devising an appropriate message is through the use of a generative matrix. This method helps to discover key words and concepts in order to apply them toward new design solutions that address established communication goals. In addition, generative matrix encourages the designer to cross-reference or compare aspects or characteristics of a subject that designer may not otherwise have considered. It helps the designer to be very of deliberate in their message-making process.

Poster Series For Direct Aid

Design Elements / *Problem Attribute*	*Quality*	*Effective*	*Serious*	*Needy*	*Poor*	*Hope*	*Beautiful*	*Happy*
African		X		X			X	
Culture	X				X			X
Color	X	X			X		X	
Gender		X		X			X	
Instructed	X		X		X	X		
Student			X		X		X	
Backpack	X		X	X				
Books						X	X	X
Uniform		X		X			X	
School	X				X			X
Classroom		X			X	X		
Library			X	X			X	
College		X				X		X

Poster ideation will be prompted by the particular intersections on this matrix.

Quality/Instructed	Effective/Gender	Serious/ Instructed
Needy/Backpack	Poor/Classroom	Hope/College
Beautiful/African	Quality/School	Needy/Library
Effective/Uniform	Happy/Book	Poor/Color