

EXAMINING VISUAL IMPAIRMENT MEDIA USAGE ACROSS MEDIA
TECHNOLOGIES IN US NEWS

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ABSTRACT

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The purpose of this study is to research issue frames that are associated with news coverage of visually impaired individuals as well as the assistive technologies they use to consume media. A qualitative textual analysis was implemented to examine how articles from *The New York Times* frame visual impairment and assistive technologies. The main frames found in news articles are discussed in terms of the dominant or most discussed frame and other frequent frames about visually impaired individuals and assistive technology. One hundred and sixty-six articles were examined to complete the findings. The results show that most of the articles were associated with the thematic frame, which focused on the issue and overall visually impaired community, and the messages that the articles wanted to give the audience were mostly informative.

KEY WORDS: Visually Impaired, Assistive Technology, Media Usage, Framing Theory, Textual Analysis

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CHAPTER I

Introduction

Approximately 8.3 million people of all ages (3.1%) are blind in one or both eyes or report some other trouble seeing (Adams, Hendershot, & Marano, 1999). According to the U.S. Census Bureau, disabled individuals are the largest and fastest growing subgroup of the population. The 2015 National Health Interview Survey states that more than 23 million adults in the US reported experiencing vision loss. Worldwide, 285 million people are estimated to be visually impaired, 39 million are blind, and 80 percent of all visual impairment can be prevented, according to the 2010 World Health Organization.

Many products accommodate visually impaired individuals' essential needs to live and appreciate exultant experiences. For instance, specialized lighting-lamps and lights with various types of illumination may enhance the visibility of a working surface. Audio-support software or hardware gives information through auditory channels in addition to the primary channel whether visual or tactile. Text-to-speech-software converts digital text into audio and is implemented in talking programs, like word processors, or is part of read-aloud imported text (Wiazowski, 2009). These devices are known as assistive technologies and they have paved the way for visually impaired individuals to live more effective and comfortable lives.

Assistive technologies for the visually impaired are available for television, print media, the internet, video games, and virtual reality and are developed to accommodate media usage. According to Gerber (2003), visually impaired persons report that they find it easier to develop a sense of community and to build and sustain their social networks while using assistive technology devices digitally.

Since mass media and the digital era have a profound impact on modern life, the purpose of this study is to examine how the assistive technologies that are used by visually impaired individuals to engage with digital media are talked about in news stories. In this study, the primary focus is on how *The New York Times* construct frames to create stories about visually impaired individuals and their media usage using associated assistive technologies. It is important to understand the ways in which the news media frame issues such as blindness and the use of assistive technologies because individuals rely on news coverage to understand issues and develop a picture of social and cultural life. A biased assumption about visual impairment could occur between the news source and audience, if the content is presented a certain way.

This study uses framing theory to understand news coverage of events and issues. Framing theory is often associated with agenda setting studies that have found that the media do not tell individuals how to think but what to think about. Framing is considered a second level of agenda setting because it demonstrates how meanings found in news coverage is structured about those salient issues. McCombs, Llamas, Lopez-Escobar, and Rey (1997) claim that “both the selection of objects for attention and the selection of” frames to construct meaning “are powerful agenda-setting roles” of the media” (p. 704).

The purpose of this research and study is to examine the specific frames found in news articles about visually impaired individuals and assistive technologies available to them. In addition, finding new frames that are discussed about visually impaired individuals. The types of framing associated with visually impaired individuals and assistive technology is based upon the previous literature on framing as it relates to

broader issues of disability. This research shows how those with visual impairments using assistive technology, although rarely discussed in media coverage, are framed by general news stories. This study shows what future researchers should know about how the disabled community is covered by the news media in the United States.

CHAPTER II

Framing Theory

The concept of framing consistently offers a way to describe the power of a communicating text (Entman, 1993). From an audience effect perspective, according to Baran and Davis (2011), framing theory refers to the assertion that people use expectations of the social world to make sense of the social world. In the concept of media framing and messages, framing refers to the media as they are used to focus attention on certain events and places them within a field of meaning. Framing recognizes the ability of a “context- or media presentation- to define a situation, to define the issues, and to select the terms of debate” (Tankard, 2001, p.95). This study is referenced in accordance to the media’s message to the audience.

Sociologist Erving Goffman (1974) developed the frame analysis and framing theory to provide a systematic account of how we use expectations to make sense of everyday life situations and the people in them. Goffman was fascinated by the human mind and connection to the world and media. Goffman was convinced that daily life is much more complicated than it appears (Ytreberg, 2002) and individuals have ways of dealing with these complications. Goffman used the term “frame” to categorize daily life meanings and to refer to a specific set of expectations used to make sense of a social situation at a given point in time (Baran and Davis, 2011, p. 361). Framing theory challenges “a long accepted and cherished tenet of journalism” – the notion that news stories can or should be objective (Baran and Davis, 2011, p. 360). Numerous news articles and sources create frames that allow individuals to project different perspectives (i.e. emotions such as anger, sympathy, happiness, etc.) about the topic.

According to Goffman (1974), daily life involves countless shifts in frames, and these shifts are negotiated using social cues. Our actions are either routinized or habitual. Our inability to adequately understand these skills in no way prevents them from operating, but it does impede our ability to make sense of our own meaning making (Baran and Davis, 2011). The following section elucidates the meaning of message framing by the media.

Media Framing

The media frame messages “to help people understand issues” (Wick, 2000, p.71). The media choose to focus attention on certain events and then place them within a field of meaning (Wick, 2000). The media messages contain “contextual cues” provided by qualified communicators to help people understand information (Wick, 2001, p.71). Media messages are either episodically or thematically framed. Episodic framing is “event-oriented of breaking news studies” or case studies (Wick, 2007, p.72). Thematic framing is “presenting issue in context with background information” or abstract concepts (Wick, 2000, p.72).

Message framing originates from the work of Tversky and Kahneman (1981), who were largely interested in judgement, risk, and decision-making (Giles, 2010). The key properties of a message “concern the costs or benefits of responding to that message as perceived by the receiver” (Giles, 2010, p.138). Media framing offers an alternative to the old “objectivity and bias” paradigm, it helps us understand mass communication effects, and it offers valuable suggestions for communication practitioners (Tankard, 2001, p. 95). In the following section, the message framing process is clarified and explicated.

Message Framing Process

According to Entman (1993), message framing process has four components: “identify a problem”; “access the cause of an event and assign responsibility”; “consider the issue or problem in the context of legal, ethical, or moralistic principles”; and “identify and recommend solutions to the problem” (Bryant & Vorderer, 2013, p. 88).

For instance, the “problem” in this study is the subject’s disability, visual impairment. The problem could have occurred in numbers of ways; a tragic accident, developed from birth, glaucoma, etc. People with visual impairment suffer from stereotype, inequality, judgement, unethical situations, and have difficulties living an adaptable lifestyle. It is recommended for visually impaired individuals to engage with assistive technology to live a comfortable, accessible lifestyle.

Furthermore, frames have at least four locations in the communication process: the communicator, text, receiver and culture (Entman, 1993). Communicators make “conscious or unconscious framing judgments” in deciding what to say, guided by frames that organize their belief systems (Entman, 1993, p. 52). Text contains frames, which are “manifested by the presence or absence of certain keywords, stocks phrases, stereotyped images, sources of information, and sentences that provide thematically reinforcing clusters of facts or judgments” (Entman, 1993, p. 52). The receiver’s “thinking and conclusion may or may not reflect the frames in the text and the framing intention of the communicator” (Entman, 1993, pp. 52-53). The culture is the stock of commonly invoked frames; in fact, culture might be defined as the empirically demonstrable set of common frames exhibited in the disclosure and thinking of most people in a social grouping

(Entman, 1993). Moreover, the next chapter evaluates and reviews the frames and issues that are commonly discussed in media messages around health and disability issues.

CHAPTER III

Literature Review

Health and Disability News and Framing

Disabilities and disabled individuals along with general coverage of health issues have been associated with many frames in the mass media. News organizations have played a role in the stigmatization of mental health and disabilities, but they also have the opportunity and ability to alter such representations and to improve public knowledge (Sartorius & Schulze, 2005). In recent framing research on disability issues and mass communication, attention has alternated between very specific issue frames that are only applicable to certain topics and broadly defined generic frames that seem to be ubiquitous (De Vreese, Peter, & Semetko, 2001). Based on the previous literature, the following frames and models were developed to categorize news articles that mention visually impaired individuals and assistive technology.

Frames have been theorized at various levels of generalization with frames such as issue-specific or generic. Issue-specific frames refers to “every issue can have different frames” (Matthes, 2009, p.353). For instance, Iyengar's thematic and episodic frames are prime examples (Matthes, 2009, p.354). Generic frames “transcend thematic limitations as they can be identified across different issues” (Matthes, 2009, p.354). Semetko and Valkenburg postulated five generic frames: conflict, human interest, economic consequences, morality, and responsibility (Matthes, 2009, p.354).

Episodic frames and thematic frames have been found in health-related stories and suggest options when handling solutions. Episodic frames in health and science news coverage introduce an individual to represent a particular illness or disability (Holton,

Farrell, & Fudge, 2014). Episodic frames focus on personal lifestyles and suggest individual solutions or cures to health-related issues. Thematic frames place more emphasis on the connection between issues and society, promoting a shared responsibility when it comes to issues of health (Holton, Farrell, & Fudge, 2014). Thematic frames help individuals relate to stories and understand how they connect them with other people (Holton, Farrell, & Fudge, 2014). Journalists, particularly those covering health and science, have been encouraged to include thematic frames in their news coverage (Hawkins & Linvill, 2010).

Issue, cause, and solution issue frames are represented in mass media and are employed in coverage of certain topics. Issue framing refers to the topics under which coverage of a specific health condition is presented (Kang, 2012; Bie & Tang, 2013). For instance, Mangione et al (1998) identified different common eye diseases that are causing problems with vision-related functioning. In their study, the researchers classified diabetic retinopathy, glaucoma, macular degeneration, cytomegalovirus retinitis, and cataract as the primary issue frames in visual impairment coverage.

Cause framing refers to how the media make attributions about a certain condition and assign blame (Entman, 1993; Bie & Tang, 2013). In the cause frame, the media present reasons why a visually impaired individual is disabled and blame it on the condition. Congdon et al (2004) claim that the leading cause of blindness among white persons was age-related macular degeneration (54.4 percent of the cases), while among black persons, cataract and glaucoma accounted for more than 60 percent of blindness.

Solution framing is defined as a way for the media to allocate responsibility to an individual for a certain situation. Solution framing is another essential component of the

framing process through which the media assign responsibility to different parties or individuals for dealing with a certain condition (Entman, 1993; Bie & Tang, 2013). In communication science, framing in its broadest sense refers to the manner in which the media and the public represent a particular topic or issue (Reese, 2001). For instance, the disability community is viewed, in the media, as a media and welfare issue. Problems of news misrepresentation and federal government framing affect the news coverage of disability issues because research has shown how the media often report on disability as a medical or social welfare problem (Clogston, 1990). Media often performs stereotypes of the blind and visually impaired, which would be known as disability bias.

Stereotypes of the Blind and Visually Impaired

UK disabled writer and activist Paul Hunt recognized ten communal and often typical stereotypes of people with disabilities in media. The frame and stereotype that are often associated with people with disabilities (i.e. visually impaired or blind) is, “The disabled person as pitiable or pathetic.” For example, images of disabled individuals as pitiable and pathetic are the most common in advertisements by charities (Winter, 1991). Charities tend to exploit disabled people and frame them as individuals who are in need of aid or assistance.

Additional frames and stereotypes about disabled individuals (i.e. visually impaired) are objects of curiosity or violence, sinister or evil, the super cripple, laughable, his or her own worst enemy, a burden, non-sexual, and unable to participate in daily life (Winter, 1991). Some advertisers, notably charities, present a particularly distorted view of disability and disabled people to raise money (Winter, 1991).

Adverse stereotypes about disability harm the disability community. Disability studies scholars write that these inaccurate stereotypes are dangerous because they “reinforce negative attitudes towards disabled people, and ignorance about the nature of disability” (Shakespeare, 1999, p. 166). Most stereotypes in the media’s coverage about disabled individuals are negative and discount the positive influences of visually impaired individuals. According to the American Foundation for the Blind (2016), 40 to 45 percent of visually impaired individuals are employed in a corporate occupational setting. There are workers who are blind or visually impaired in all walks of life who use learned skills and adaptive technology to become or remain productive in the workplace (American Foundation for the Blind, 2016). Adaptive technology and assistive technology play important roles in equal employment and treatment.

CHAPTER IV

Message Sidedness

One-sided Message and Two-Sided Message

According to Hale, Mongeau & Thomas (1991), one-sided message will be defined as a message that presents only those arguments in favor of a particular proposition. The one-sided message disregards contrasting arguments. The one-sided message is “superior for a favorable audience” because the message focuses on the agreeable arguments (Hale, Mongeau, & Thomas, 1991, p.385). A one-sided message “presents only arguments favoring the position advocated by the source” and a two-sided message “presents both arguments opposing the source's position and those favoring it” (Hale, Mongeau, & Thomas, 1991, p.385).

A two-sided message presents supportive arguments, also recognizes contrasting arguments. Two varieties of two-sided messages have been recognized. A refutational two-sided message “attempts to refute opposing arguments in some fashion”; this might involve “attacking the plausibility of opposing claims, criticizing the reasoning underlying opposing arguments, offering evidence that is shown to undermine opposing claims, and so forth” (O’Keefe, 1999, p.211). A nonrefutational two-sided message “acknowledges the opposing considerations but does not attempt to refute them directly”; it might suggest that the positive supporting arguments outweigh the opposing ones, but it does not directly refute the opposing arguments (O’Keefe, 1999, p.211). Hale, Mongeau, & Thomas’ (1991) study and other studies have found that one-sided messages are more persuasive than two-sided messages. As a result, to their study, reputational two-sided

messages were found to be “more persuasive than either nonrefutational two-sided messages or one-sided message” (Hale, Mongeau, & Thomas, 1991, p. 381).

CHAPTER V

Clogston's Models of Media Representations of Disability

Media news reporter John Clogston (1990) developed category models of news media representations of disability that may be helpful in understanding framing of disability coverage in news media. Clogston's models include the medical model, the social pathology model, and the supercrip model.

The medical model is a frame that presents disability as an illness or malfunction (Encyclopedia of Disability, 2006). For example, disabled individuals are represented as dependent on health professionals for cures or maintenance. The social pathology model is a frame that presents people with disabilities as disadvantaged who must look to the state or society for economic support, which is considered charity, not a right (Encyclopedia of Disability, 2006). According to the Office of The Assistant Secretary for Planning and Evaluation (ASPE), people with disability use government assistance such as Social Security Disability Insurance (SSDI), the Supplemental Security Income (SSI) program, Medicare and Medicaid.

In the supercrip model, the person with a disability is presented as deviant because of superhuman feats or abilities (i.e., ocean sailing blind man) or as "special" because he or she lives a regular life in spite of disability (Encyclopedia of Disability, 2006). For example, people are surprised that a disabled individual is able to achieve a goal and accomplish their dreams. In the article, *What I Want You to Understand About the 'Supercrip' Stereotype*, Claire, a disabled individual, writes:

Supercrip is this stereotype that has formed around many people with disabilities. People look at us as these inspirational models. Wow, look at

Claire, she is blind but she still went to law school. That's amazing! One of the bar prep professors this summer announced in front of everyone that she was impressed that I had went to law school and was studying for the bar. People see us as these inspirational stories to gawk at (Stanley, 2015).

Each of the models represents negative frames that the media associate with people with disabilities. Clogston (1990) also developed four progressive category models: minority/civil rights model, legal model, cultural pluralism model, and consumer model.

The minority/civil rights model reflects that people with disabilities are seen as members of the disability community. The disability community fight for civil rights similar to other communities or groups. Accessibility in society is a civil right (Clogston, 1990). The legal model refers to illegally treating people with disabilities in certain ways. The Americans with Disabilities Act and other laws are presented as legal tools to halt discrimination (Haller, 1995). The disability community have legal rights and may need to sue to guarantee those rights that they deserve.

The cultural pluralism model represents people with disabilities who are to be presented as multifaceted people and their disabilities do not receive undue attention (Clogston, 1990). The disability community are seen as a unique group, but they are often overlooked in the media industry. The consumer model represents people with disabilities shown to represent an untapped consumer group (Haller, 1995). For example, if people with disabilities have opportunities to careers, they will have additional disposable income. If people with disabilities have jobs, they will no longer need government

assistance (Haller, 1995). The media models mentioned can be correlated to the attitudes and expectations the society has about people with disabilities.

Due to the development of multiple frames associated with health news and media coverage of people with disabilities combined with the lack of specific studies on the subject of news coverage of visual impairment and assistive technologies, the following research questions directed this research:

RQ1: What are the dominant frames or themes described and mentioned in *The New York Times* articles about assistive technology for visually impaired individuals?

RQ2: What are the dominant frames or themes described and mentioned in *The New York Times* articles about visually impaired individuals?

RQ3: What type of message sidedness does *The New York Times* articles represent the most?

CHAPTER VI

Methods

Textual analysis is the qualitative methodology used to undertake an analysis of the research questions. To address the RQs and find out the dominant frames present about assistive technology and people with visual impairment, news articles from *The New York Times* from 1957-2017 were analyzed. The reason why *The New York Times* was chosen as a news source for articles about visual impairment is that it is widely known as the top national newspaper in the United States. According to the Alliance for Audited Media (2015) and other articles, *The New York Times* has the second largest circulation in the US, with *Wall Street Journal* as the lead. Unlike the *Wall Street Journal*, *The New York Times* has an article database about disability coverage, which made the researching process more fluent. *The New York Times* CEO Mark Thompson states, “We reach vast audiences in America. We’re reaching about half of everyone who touches the news on ... the web,” he said. “We’ve got around 125 [million] to 130 million users every month.” (Belvedere, 2016).

To conduct the textual analysis of frames in *The New York Times* articles of visual impairment and visually impaired individual’s interaction with assistive technology, the researcher inputted the search term *visually impaired* into *The New York Times* website’s search box. The result of the search was three hundred and ten articles about visual impairment. One hundred and sixty-six articles were accessible and directly related to the study. The one hundred and sixty-six articles in *The New York Times* were thoroughly reviewed within a 2-week span period. The one hundred and sixty-six articles addressed visually impaired individuals or visually impaired individual’s involvement with assistive

technologies. The number of articles reviewed were deducted from three hundred and ten to one hundred and sixty-six because fifty articles were in no relation to this study and most of the articles were repeated.

The textual analysis method is appropriate for this study because this type of analysis “avoids the condensation and decontextualization of meaning which is implicit in most quantitative versions of coding” (Jensen, 2002, p. 248). In this study, each article will be categorized by frames such as episodic, thematic, issue, cause, or solution framing. In addition, each article was categorized as either a one-sided message or a two-sided message. One-sided messages are persuasive communications that present only one perspective of the topic – positive perspective. Two-sided messages are persuasive communications that present two perspectives. Two-sided messages focus on presenting both the positive and negative points of view on a subject.

In addition to the message sidedness, the articles were organized into three additional themes: *stereotypical* refers to oversimplified idea of a particular type of person or thing; *informative* refers to providing useful or interesting information; and *supercrip* classifies disabled individuals as deviant because of superhuman feats or abilities.

CHAPTER VII

Findings

One-Sided Messages

Fifty percent of the articles presented a one-sided message. These articles presented a positive outlook on visual impairment and visually impaired individual's involvement with assistive technology.

In the article "Technology Helps the Blind on the Job," the advancement in technology is aiding people with visual impairment to obtain job opportunities and increase the chance of having a steady income. According to an expert quoted in the article:

AS technology spawns the production of higher-quality, less expensive computer, video and audio products, an increasing number of new tools are being made available to the blind and visually impaired that greatly widen their academic and career opportunities (Romano, 1990).

This article represents a one-sided message because *The New York Times* presented only the positive outcomes and perspective about the advancement of technology. *The New York Times* message intended to state the positive of assistive technology and how technology is advancing to accommodate people with visual impairment.

In the article "High-Tech Solutions for Visually Impaired", Judith Bron, who is 80 percent blind, is quoted as being thankful for the advancement of assistive technology and the Internet, which allows her to work from home and access work related activities.

“Thanks to today's technology, the employment rate for healthy legally blind people, ages 18 to 54, is estimated to be as high as 70 percent. This is close to the employment rate for the general population” (Lederman, 2001). *The New York Times* presented a one-sided message in this article by covering the optimistic perspective of today's technology. Due to the advancement of technology, people who suffer from visual impairment and other disabilities has an opportunity to have a steady career and customary lifestyle. In addition, the disability community's employment rate increases.

In the article “Metro Business; Suite for the Blind to Open,” The Hotel Delmonico in Manhattan will be the first hotel suite for visually impaired individuals. Deborah Mason, a spokesperson for the Lighthouse states, “The Lighthouse Suite will be the first luxury hotel suite of its kind in New York” (Chen, 1997).

The New York Times presented a one-sided message that shows the constructive aspect about the hotel suite designed and dedicated to visually impaired individuals. The Lighthouse Suite is situated on the 14th floor and is 600-square-feet that has many accessible items for visually impaired individuals to have a comfortable stay. Joseph Kaminski, manager of hotel, is quoted in the article saying:

Situated on the 14th floor, the 600-square-foot suite, which will cost \$275 a night, will feature an enlarged dial telephone, rounded furniture, large-print books and newspapers, color schemes that emphasize visual contrast, and an enlarged numerical clock with Braille. (Chen, 1997).

Above all, each article that presented a one-sided message coincided with a positive perspective about assistive technology and visual impairment.

Two-Sided Messages

Two-sided messages present both a positive and negative perspective on a subject. According to the analysis, fifty percent of the articles presented a two-sided message by beginning with a negative statement about a topic and concluding it with a positive declaration. For instance, the article “How Best to Teach the Blind: A Growing Battle Over Braille” is a news story about a visually impaired graduate student who had trouble reading and writing in his classes but discovered a voice-activated computer that solved his issue. “Kenneth Silberman, who is blind, discovered that the tape recorders and computers he had always used to get through school were little help in the studies required to earn a master's degree” (De Witt, 1991). Silberman taught himself Braille and received his degree in Aerospace Engineering from Cornell University. The article states:

Braille, once taught to all the visually handicapped, has been partly supplanted in the last 40 years by such technological aids as tape recorders, voice-activated computers and machines that translate print into voice. As a result, illiteracy is on the rise among the nation's 13 million people with visual handicaps” (De Witt, 1991).

Two-sided messages were also found to be related to finding a solution to equality. For example, the article “The Education of the Blind and Deaf Children” stated that visually impaired children were encouraged to enroll in education institutions primarily for the blind:

Only a few years ago the diagnosis that a child was blind was followed by a recommendation that he be sent to a residential school for the blind. At that time,

more than 80 percent of all visually impaired children were enrolled in such institutions; by 1973 the figure had dropped to 35 percent (Walsh, 1977).

However, the article reported that the federal government encouraged visually impaired children to enroll in regular educational institutions with helpful programs. “New technological aids (many the result of federally funded research) are making it easier for the older child to learn. The optacon, a reading machine that sells for about \$3,000, is used in the larger public school systems” (Walsh, 1977). In this two-sided message, assistive technology is framed as an advanced and equitable way for the blind to learn with non-disabled individuals in school settings.

In the article “The Visually Impaired Will Get More to Read,” visually impaired individuals have difficulties reading regular sized font books in bookstores, which limits their educational level. “Many of America's 11 million visually impaired people, who are incapable of reading the print of the typical hardcover or paperback book, have had few alternatives to giving up reading altogether” (McDowell, 1985).

Due to the company Doubleday the article states, visually impaired individuals have the chance to access large-print books at their local bookstore:

The growing number of books on tape has helped somewhat, but until recently, few bookstores have carried large-print books; libraries that do carry them usually have a limited selection, and none of the 140 or more adult book clubs, which cater to everyone from nurses to chemical engineers to organic gardeners, have catered to people with poor eyesight (McDowell, 1985).

In the article “Technology Eases the Way for the Visually Impaired,” Betty Salz, a teacher for the blind and visually impaired, helped her students to learn Braille the

traditional way. At first, she refused to allow her students to engage with assistive technology. “Several of the teachers Ms. Chin and Ms. Salz worked with refused to go anywhere near the computers in the early 1990's, preferring to stick to typewriters and Braille typing” (Medina, 2002).

The individual quoted and other teachers enjoy the impact of assistive technology and how it helps visually impaired students learn rapidly, according to the article. “Most blind students now use a machine called Braille Lite, a personal data assistant that works like a Palm Pilot, with a memo pad for notes, appointment calendar and address book” (Medina, 2002).

The New York Times presented a two-sided message in this article by providing both a positive and negative aspect that occurred with an individual's engagement with assistive technology. Furthermore, the articles with two-sided messages began with a negative statement about the topic or subject and preceded with ending it with a positive comment.

Stereotypical

Thirty percent of the articles had a stereotypical assumption about visually impaired individuals. Visual impairment is often scrutinized and viewed as an issue in interactive situations. For instance, an article titled “Talking of Vision, and the Lack of It” discussed the inconvenience of having visually impaired individuals at a television talk show. Brian Lewis, a spokesperson for America's Talking, said:

After a few times of having people on the show that were visually impaired, they said they didn't feel comfortable participating in the show,’ he said. ‘Our shows

are very interactive. We just made a programming decision that we don't take visually impaired people. It was a mutual decision (Nieves, 1995).

This type of decision to dismiss visually impaired individuals from interacting with others and the public represents a stereotypical theme mentioned in the previous literature by disabled writer and activist Hunt about disabled individuals not “being able to not participate in daily life” (Winter, 1991, p. 45). Due to the lack of assistive technology in everyday situations, visually impaired individuals are represented as a burden and not being able to participate in daily activities.

Also in the stereotypical theme, *New York Times* articles depicted visually impaired individuals that were represented as vulnerable and defenseless. In the article, “Vision-Impaired women in Nepal take self-defense classes,” a woman is quoted as expressing how some strangers grope and take advantage of the visually impaired while doing their daily activities. The article states:

There are times when Sarita Lamichane is navigating the chaotic streets of Kathmandu and someone will offer to help her through the snarls of traffic. She is blind, and rush hour for her is no easy thing. But sometimes, those helpers will grope her the first chance they have, pawing at her body (Staff, 2015).

However, to rectify the situation, the article reports that gyms and organizations have created self-defense classes for the blind and visually impaired. “Offered for free by a local company that normally trains security guards, the intensive two-week class addressed issues ranging from assessing the body language of passers-by to using everyday objects as weapons” (Staff, 2015).

The article “Blind Woman’s Subway Death Exposes Platform Safety Flaws” also depicted a stereotype. For instance, the article stated that “the tragic death of Pamela Schneider, the blind woman who fell on the subway tracks, raises questions about New York City transit system safety warnings and operating procedures” (Fruin, 1993). *The New York Times* article expressed how a subway station does not accommodate safety measures to people with visual impairment. The message was intended to inform that it is a safety hazard to not include or have safety precaution for people with visual impairment, due to the fact they are blind, it is easier for them to get involved in dangerous situations.

An article titled “Court Says Broadcasters Don’t Have to Offer Technology for Blind” reported that a federal appeals court overturned the Federal Communications Commission rules that required broadcasters to adopt technology that would allow visually impaired individuals to watch television by audio description. The federal appeals courts stated, “The court said Congress had not given the commission authority to order such video description when it asked the agency to study ways to accommodate blind and visually impaired people (“Court Says Broadcasters,” 2002).

The New York Times article presents a stereotypical claim because the federal courts refuses to accommodate to visually impaired individuals needs for the enjoyment of watching television. The cost to provide for their needs is considered costly or expensive: “But broadcasters pointed out that in some markets the secondary channel is already used for Spanish and other foreign-language audio. The cost of providing video descriptions was another concern among broadcasters.” (“Court Says Broadcasters,” 2002).

In the article “Airline Use Found Hard for Disabled,” visually impaired individuals were reported as suffering from discrimination, mistreatment at the airports, and denied access to accommodative resources. “Disabled air travelers are often mistreated by airline personnel and denied special accommodations including access to wheelchairs and escorts in violation of a 1986 law, according to a report by the National Council on Disability” (“Airline Use Found Hard,” 1999). The refusal to accommodate disabled individuals is lawfully wrong and inadequate:

The report, released last week, said that enforcement of the 1986 law, the Air Carrier Access Act, was ineffective, that public education efforts on the needs and legal rights of disabled air travelers was inadequate, and that there was not enough money or staff at the Department of Transportation dedicated to investigating complaints (“Airline Use Found Hard,” 1999).

The above and additional articles represent stereotypical themes because they insufficiently label and belittle visually impaired individuals’ rights as citizens and ordinary human beings. Stereotyping is a reoccurring issue that is corresponded to various nationalities, cultures, race, genders, and disability.

Informative

Fifty-seven percent of the articles analyzed were categorized as informative. These articles were categorized as informative because they presented enlightened information about visual impairment and assistive technology.

The article “Technology Helps the Blind on the Job” reported that visually impaired individuals are able to use an assistive technology device called “the Navigator” to help access computers:

One of the first products to make such material more easily available was the Navigator, a device manufactured by TeleSensory, a corporation in Mountain View, Calif. The unit, which is attached to a personal computer, provides a one-line tactile Braille display of what appears on the computer's screen (Romano, 1990).

The informative theme was found in this article because it reported that assistive technology had paved the way for visually impaired individuals to access and apply for jobs. Acting Director of the New Jersey Commission of the Visually Impaired, Gerard P. Boyle was quoted in the article as saying “the computer field has opened up new horizons for blind people. It's incredible. There are now blind people in this state in almost every occupation” (Romano, 1990). This article, as an informative theme, suggests that advancement of technology has eased the way for disabled individuals to live a productive lifestyle.

The article “Enhancing Television for the Visually Impaired” discussed advancements of television that have aided visually impaired individuals by allowing them to enjoy leisure time. A visually impaired woman, Jane Morin, reported that her life changed after hearing the news that she would be able to view television in a different way:

When I first heard it, it was such a shock; I found myself walking around the room in tears. What I heard was a sound track intended to enhance television viewing for the visually impaired by describing character movement, body language and scenes during pauses in dialogue (“Enhancing Television,” 1990).

This article was categorized as informative because it reported that television enhancement for the blind and visually impaired were in progress during the decade in which it was written.

In the article “An Accessibility Map for the Impaired,” a new online rating tool by the Rick Hansen Foundation was reported to help people with disabilities evaluate the accessibility of restaurants, hotels and other sites that “the Global Accessibility Map was designed as an easy-to-use source for people with mobility, sight and hearing impairments. (Visually impaired users can access it using standard software programs that convert text into audible content.)” (Mohn, 2011).

Visually impaired users can sort through reviews by geographic location, place, name, rating level or type of impairment, the article reported. They can also post reviews and comments about their experience at the hotel or restaurants to inform potential users. The Chairman of The Global Accessibility Map, Daryl Rock stated in the article that “often there is a disconnect between the venue owner’s perception and the consumer’s assessment of reality” (Mohn, 2011). From experience, Rock, a wheelchair user, stayed at a hotel in New York that described itself as fully accessible, however the steps at the entrance prohibited easy access. Rock commented, “We have the opportunity to take matters into our own hands” (Mohn, 2011).

In the article “The Disabilities Act Is for the Blind, Too”, Congress authorized the development of additional standards to remove communication barriers faced by blind, visually impaired, or other persons with sensory disabilities.

Features like raised character and braille signage systems, protection from protruding objects like drinking fountains and telephone enclosures that often

cannot be detected by the long white cane, and tactile-visual warning strips along subway platform edges are just a few of the ways in which buildings and other environments can be made more accessible to blind or visually impaired persons (“The Disabilities Act,” 1993).

The New York Times framed the issue as informative to help enlighten the reader’s knowledge about visual impairment rights and known accessibilities. If *The New York Times* did not share articles about new devices, laws, and accommodations that are available to visually impaired individuals, readers would not be educated about this type of disability.

Episodic

Thirty-one articles were classified as episodic frames. Episodic frames focus on an individual’s personal lifestyle and suggest individual solutions or cures to health-related issues. Episodic frames in health and science news coverage introduce an individual to represent a particular illness or disability (Holton, Farrell, & Fudge, 2014).

In the article “Teaching English to the Visually Impaired,” Jacqueline Suh, who teaches English at the Guild for the Blind, was quoted as saying:

I teach English as a second language to adults who are visually impaired. I also do academic remediation for students who speak English as their native language but who have trouble spelling, writing, reading or some aspect of the English language (Mitchell, 2007).

The message in this article was intended to discuss about an individual and their personal lifestyle, therefore it was categorized as an episodic frame.

In the article “Sometimes Disabled Need Help, but Don't Ask; A Good Samaritan,” Jay D. Leventhal was the subject of an article that reported that he is a visually impaired individual who guides himself in New York City and uses his cane to navigate through the City. A friend of the subject was quoted in the article:

I admire Jay D. Leventhal's ability to navigate around New York City and understand his anger at being manhandled by well-intentioned individuals, but not all visually impaired people may have the self-confidence to ask for help when they need it (Rieser, 1992).

Although the individual is blind and can navigate himself to different locations, he still does not mind if a good Samaritan helps direct him to the right direction. “A colleague who is blind likes to tell the story of crossing Seventh Avenue one day when he felt someone grab his arm. Assuming it was a good Samaritan, he didn't say anything” (Rieser, 1992).

The article “Disabled Triathletes Unhappy about Rules Changes” is an episodic story of Aaron Scheidies, a visually impaired athlete who has won four triathlon world titles. Aaron’s primary goal for the New York City Triathlon is to finish without crashing. However, there is an obstacle that Aaron has to overcome:

Because of a new rule imposed by the International Triathlon Union, Scheidies must surrender his partial vision for Sunday’s race. The rule requires all visually impaired elite triathletes to wear blackout glasses during the race’s running portion. Officials believe the rule will level the playing field among the blind (Dreier, 2010).

Scheidies is quoted as saying that the blackout glasses affect his balance and make him feel intoxicated. He anticipated boycotting the event, yet he did not want to upset his sponsors.

The article “Changing How Qatar Sees the Blind” discusses a visually impaired artist, Qatar, who went blind in the fifth grade. Qatar dedicated her life to molding how she, and then other blind people, are seen. She is quoted in the article: “People are different, and they have different ideas, and you can shape the way they come to think of you. At the institute, we try to instill this, in addition to academic abilities, in our students.” (Slackman, 2010). Qatar’s positivity about her loss of vision inspires her peers to do the same. This story was categorized as an episodic frame because it references to an individual’s lifestyle and personality, in addition to, the known issue, visual impairment.

The article “Braille Publisher Shows Way to a Wider World” tells the story of a woman who is a computer programmer for Honeywell Inc. in Wellesley, Massachusetts. *The New York Times* states:

Ms. Espinola, who is blind, touch-types her programs on a regular computer keyboard, but she uses a "talking" software program and a speech synthesizer, which narrate what she types, as well as a Braille printer and a translation device (“Braille Publisher Shows”, 1987).

Ms. Espinola studied a basic primer on computer use and created her own program. She credits her success to the primer, the first Braille book dedicated to computer instruction for the blind, by the National Braille Press. Ms. Espinola states that

had she “not had a book like theirs to work with, I don't think I would have been able to get where I am” (“Braille Publisher Shows,” 1987).

The articles that were categorized as episodic were indicated to explain and shadow a visually impaired individual's story and testimony living with a vision impairment or engagement with assistive technology.

Thematic

Fifty-seven percent of the articles were categorized as thematic. Thematic frames place more emphasis on the connection between issues and society, promoting a shared responsibility when it comes to issues of health (Holton, Farrell, & Fudge, 2014).

The article “The Visually Impaired Will Get More to Read” shares the importance of having more large size print books available for the blind and visually impaired:

Many of America's 11 million visually impaired people, who are incapable of reading the print of the typical hardcover or paperback book, have had few alternatives to giving up reading altogether. But help is finally on the way.

Doubleday recently started a Large Print Home Library, offering the visually disabled a broad range of hardcover novels, mysteries, romances and how-to titles (McDowell, 1985).

This article is related to the thematic frame because *The New York Times* message is intended to focus on the issue, visually impaired individuals are incapable of reading regular-sized print, and offers a solution for the problem, providing large-sized print books for this disability.

In the article “Where a Screen Isn't an Option, a Hand-Held Uses Audio,” a hand-held device that is audio efficient and accessible for the visually impaired is discussed:

The Icon mobile manager has just about everything you would expect in a hand-held organizer, including a calendar, address book, clock, word processor, calculator, voice recorder, and Wi-Fi and Bluetooth connectivity. What it does not have is a screen, because this pocket-size device from LevelStar was designed for visually impaired users (Biersdorfer, 2007).

This article was categorized as thematic because it confers about a device that could resolve an issue that transpires for the visually impaired, who are trying to remain organized and connected with technology.

In the article “Supersensitive Machines Help The Disabled Communicate,” assistive technology is reviewed as becoming adaptable for visually impaired individuals to learn and communicate better. “The increase of technology in special-education programs on the Island makes it possible for those students to communicate better, learn more effectively and function more independently” (Saslow, 1991). The advancement of technology creates a milestone for many people with a disability to interact with the world, educationally and socially.

In the article “Electronic Voting Machines Let Disabled Choose in Private,” visually impaired individuals are finally given the right and privilege to have privacy in the voting booth. “During this election season, some blind and visually impaired voters will be able to cast their ballots in private for the first time using an electronic voting system that has been adapted for use by the disabled” (Sink, 2000). People are usually given the privilege to have privacy while casting their vote for the election, with the development of eSlate, visually impaired individuals have the privilege too.

The New York Times articles that were categorized as thematic discuss certain issues and present alternative solutions to help solve the reoccurring problem that visually impaired individuals face on the daily bases.

Supercrip

Twelve percent of the articles were classified as supercrip. Supercrip is a person with a disability who is presented as deviant because of superhuman feats or abilities (i.e., ocean sailing blind man) or as “special” because he or she lives a regular life in spite of disability (Encyclopedia of Disability, 2006).

For instance, the article “Blind Users Add Access on the Web” reported that Cathy Murtha, a visually impaired mother, never used a computer before. One day, she decides to access the Web and get to know the Internet and Web industry. Murtha currently knows how to operator a computer and runs a small Internet-based business, Magical Mist Creations.

The New York Times wanted to emphasize that Murtha is a blind individual who owns her own business, an online website. Murtha stated in the article that “people are shocked I can do this. They had never imagined a blind person could find a use for a computer, much less make a business out of it (Sreenivasan, 1996). The individual is depicted as supercrip because she is blind and able to run an online business. People are fascinated and find it remarkable that she knows how to work a computer and has the courage to make a business out of it.

The article “A Blind Mother of Two Who Makes Her Own Way” reported the story of a woman who has been legally blind since birth and has found ways of navigating the world:

She has a liquid level indicator, which emits a sound when she's filling a glass and about to reach the brim. When sweeping the floor, she starts from the corners and works her way to the middle, following set choreography because she cannot see the dirt. She has the layout of at least three supermarkets memorized so she can move from aisle to aisle with no surprises (Mascia, 2010).

The individual is not totally blind; she can make out faces and read large print. She is self-sufficient and raises two children by herself. The article classified her as a supercrip.

In the article "Runner with Impaired Sight Sets Olympic Berth as a Goal," Marla Runyan, who is a visually impaired, is preparing herself for the upcoming Olympics. However, she suffers from a condition that limits her from crossing the finish line:

Runyan suffers from a degenerative condition of the retina called Stargardt's disease, which has left her with a hole in the center of her vision. She has 20-300 vision in one eye, 20-400 in the other. She cannot see the tape at the finish line of the metric mile. She cannot read a stopwatch or watch a replay of her races without pressing her face several inches from the television (Longman, 2000).

Despite her impairment, Runyan has the chance to become the first legally blind athlete to make an American team for the winter or summer games. Runyan will be classified as a Supercrip because she will become the first legally blind athlete, which is rarely covered in the media.

The articles that were classified as supercrip praised visually impaired individuals for their encouragement to overcome adversity. When a disabled individual does an activity or stands up for a cause that seems to be beyond their ability, they are celebrated

and applauded for accomplishing their goal. Despite the praising, the visually impaired individual would like to be seen as a “normal” and “ordinary” individual, because they can do anything a nondisabled individual could do.

CHAPTER VIII

Data Analysis

Topic Analysis

In *The New York Times*, one hundred and sixty-six articles were examined and analyzed on how the media frames visual impairment and assistive technology. Each article was organized by title, publication year, and topic relation: educational, entertainment, sports-related, health-related, finance-related, and safety-related. Indicated in table 1, seventy-six (46 %) of the one hundred and sixty-six articles were educational, ten (6 %) of the articles were finance related, sixty-one (36 %) articles were entertaining, four (2 %) articles were health related, six (3 %) articles were safety related, and nine (5 %) articles were sports related.

Table 1

Categorization and distribution of topics

Article Topic	Percentage of articles
Educational	46
Finance	6
Entertainment	36
Health	2
Safety	3
Sports	5

Theme/Frame Analysis

In the theme and frame analysis, each theme and frame discussed in the findings were analyzed. Preceded in the Appendix section, the Episodic Frame, Thematic Frame, One-sided Message, Two-sided Message, Stereotypical, Informative, and Supercrip were organized by conceptual definition and number of articles. In table 2, Fifty-one (31 %) of the one hundred sixty-six articles were described as an Episodic Frame, ninety-six (57 %) of the articles were described as a Thematic Frame, eighty-three (50 %) of the articles presented a one-sided message, eighty-three (50 %) of the articles presented a two-sided message, fifty (30 %) articles were themed as stereotypical, ninety-six (57 %) articles were themed as informative, and twenty (12 %) articles were themed as a supercrip.

Table 2

Categorization and distribution of themes/frames

Themes/Frames	Percentage of articles
Episodic	31
Thematic	57
One-sided message	50
Two-sided message	50
Stereotypical	30
Informative	57
Supercrip	12

CHAPTER IX

Discussion, conclusion and limitations

The purpose of this study was to find the frames described the most in *The New York Times* articles about visual impaired individuals and assistive technologies. In addition to episodic and thematic frames, one- and two-sided messages, stereotypical, informative, and supercrip frames were found associated with visual impairment and assistive technology. Since there are few studies and attention to framing of visual impairment and assistive technology, this study should be seen as a starting point creating a forum for additional research.

Framing theory explains how “people use expectations of the social world to make sense of the social world” or situations around them (Baran & Davis, 2011, p. 35). The findings contributed to the framing theory by discovering potential frames that could be referenced in future studies. For instance, the stereotypical, supercrip, and informative themes are potential frames that researchers could discover in news articles.

The findings contributed to the academic field by providing potential studies about the effectiveness of message framing to the audience about physical disabilities. This study covered *New York Times* articles about visual impairment and assistive technology. Future studies could examine the effectiveness of the audience response to the framing of visual impairment and assistive technology and use this study as a reference and support.

Additionally, this study provides an analysis from one of the largest circulating newspapers in the US, which examined the type of frames related to visual impairment and assistive technology.

The importance of this study and findings was to understand what type of frames are typically associated with visual impairment and assistive technology. The findings shown a main frame that could be supplementary with this type of disability and assistive technology. It is important to cover a topic about framing and disability because this subject matter could possibly create a biased assumption from the audience about people with disabilities. To eliminate the biased assumptions about visually impaired individuals and assistive technology, obtaining various types of informative information about this subject and presenting the pros and the cons could help reduce the bias in relation to this sensitive topic.

The findings of this research could contribute to future research by being a resource and guide to more in-depth studies about how the media frame assistive technology to the blind and visually impaired. The results can be compared with other frame analysis that are associated with visually impaired individuals and their involvement with assistive technology.

The result of this study shows that the thematic frame was the dominant frame described and recognized in most of the articles in *The New York Times*. According to Frameworks Institute, thematic frames highlight how to *fix the issue* of a problem (Benjamin, 2007). Majority of the articles in *The New York Times*, mentioned assistive technology as an aid and adjustable component in visually impaired individuals personal and work lifestyle. An addition to finding the most dominant frame described the most in the articles, most of the articles were themed as informative, because of their descriptive meaning and detailed reasoning of how assistive technology for visually impaired individuals were beneficial.

As a result, the dominant frame that was described the most in *The New York Times* articles about visually impaired individuals and their involvement with assistive technology is the Thematic Frame. Also, most of the articles were themed as informative and provided educational information.

The Thematic Frame focuses on an issue and discuss possible solutions to resolve the issue. Majority of the articles mentioned various types of assistive technologies that could assist visually impaired individuals in their personal and work lifestyle; Braille Lite, voice-activated computers, large-print books, and the Navigator. In this study, it helped show awareness that assistive technology could be useful and enhance visually impaired individuals in their daily lives. Also, the findings show that the media's message about visual impairment are mostly informative and present stories that show ways to help solve an issue that affiliates with visually impaired individuals.

Study Limitations

There were a few limitations developed during this research and study. The limitation in this study were the number of frames associated with visual impairment and assistive technologies. Visual impairment and framing are not commonly recognized in studies. However, there were other disabilities that were associated with specific frames (i.e. Autism and Science Framing).

The number of articles from *The New York Times* about the blind and visually impaired formed another limitation to this study. There were three hundred and ten articles from search results of *The New York Times*. Out of the three hundred and ten articles, one hundred and sixty-six articles were related this study. If there were more articles reviewed, this study's results may have been more versatile and advanced.

Choosing *The New York Times* as the only search database for articles was an additional limitation. *The New York Times* is not the only trusted news source for people to receive current events and information. Selecting *The New York Times* as the only news source for articles about visual impairment and assistive technology caused a limited number of articles and topics to be analyzed.

Using textual analysis as the only method causes limitations well. The accuracy of the textual analysis process must be precise in order to avoid invalid results.

Study's Suggestions

Future studies could analyze more content and content from additional sources. Fully developing informative, stereotypical, and supercrip as frames may provide additional insight. In this study, stereotypical, informative, and supercrip characteristics were found in the articles, which could be potential frames.

Researchers could analyze the audience's reception of messages about visual impairment and assistive technology. Lastly, it is suggested that researchers find additional frames that are related to other disabilities. For instance, researchers could discover if potential frames, such as stereotypical, informative, and supercrip are related to other disabilities.

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APPENDIX

Topic Analysis

Title	Publication Year	Topic
Technology Helps The Blind On The Job	1990	Educational
Defense For The Visually Impaired	1976	Educational
High-Tech Solutions For Visually Impaired	2001	Educational
For The Visually Impaired, Money Talks	2010	Finance
Teaching English To The Visually Impaired	2007	Educational
Enhancing Television For The Visually Impaired	1990	Entertainment
An App To Aid The Visually Impaired	2015	Entertainment
The Visually Impaired Will Get More To Read	1985	Educational
Technology Eases The Way For The Visually Impaired	2002	Entertainment
Disruptions: Visually Impaired Turn To Smartphones To See Their World	2013	Entertainment
Device From Israeli Start-Up Gives The Visually Impaired A Way To Read	2013	Educational

The Education Of The Blind And Deaf Children;	1977	Educational
Where A Screen Isn't An Option, A Hand-Held Uses Audio	2007	Entertainment
The Vision To Depict It Their Way	2009	Health
Vision-Impaired Children Guide Toy Shoppers	1993	Entertainment
Sight Impaired, 60 Try Life At Drew	1977	Health
An Accessibility Map For The Impaired	2011	Health
Times To Publish Weekly In Large- Size Type	1966	Educational
Runner With Impaired Sight Sets Olympic Berth As A Goal	2000	Entertainment
The Voice Of The Crosswalks	2012	Educational
The Sound Of Tennis	2012	Entertainment
For The Blind	1990	Educational
Changing Assumptions	2003	Educational
The Disabilities Act Is For The Blind, Too	1993	Educational
Helping The Blind Make Safe Landfall On Columbus Circle	2000	Entertainment
Talking Of Vision, And The Lack Of It	1995	Educational
VISION CLASSES OPPOSED	1948	Educational
TV For The Blind	1999	Entertainment

An Iphone App Helps The Blind Identify Currency	2001	Entertainment
Signals For Those Who Can't See The 'Don't Walk' Sign	1999	Educational
Helping The Blind Enjoy The Show	1989	Entertainment
Sometimes Disabled Need Help, But Don't Ask; A Good Samaritan	1992	Educational
Qwerty For The Blind	2003	Educational
Blind Woman's Subway Death Exposes Platform Safety Flaws; Install Warning Strips	1993	Safety
Making The Web Speak	1998	Educational
Art Appreciation For The Blind	2000	Entertainment
Views Of The Blind	2014	Educational
New York Should Raise Supplemental Security	1988	Educational
New Yorkers Are Still Willing To Help The Blind; Discrimination At State	1989	Educational
How Best To Teach The Blind: A Growing Battle Over Braille	1991	Educational

Please, Is This \$1 Or \$100?	2008	Finance
Library For Blind To Move, And Grow	1988	Educational
Concert Programs In Braille Applauded	1989	Entertainment
Court Says Broadcasters Don't Have To Offer Technology For Blind	2002	Educational
Help For The Blind And Dyslexic	2001	Educational
Disabled Triathletes Unhappy About Rules Changes	2010	Sports
Internet For The Blind	2011	Entertainment
Account Of Being Blind Is An Incomplete Picture	1996	Entertainment
Electronic Voting Machines Let Disabled Choose In Private	2000	Educational
In Paralympic Goalball, Resourceful Listeners Face A Hard Thrower	2016	Sports
News Is Taped For Disabled	1972	Educational

A Helping Hand That Magnifies Even The Fine Print	2004	Educational
New TV System Offers Descriptions For Blind	1988	Entertainment
Touch Time, For The Blind And Everyone Else	2015	Entertainment
The Vision Thing	2008	Educational
See Me, Hear Me: A Video Game For The Blind	2008	Entertainment
Blind But Mobile	1986	Entertainment
If It Feels Like A Dollar	2006	Finance
East Orange Journal; Volunteers Make Textbooks That Open The World To The Blind	1992	Educational
Blind Users Add Access On The Web	1996	Entertainment
I.B.M. To Introduce Software For The Blind	1992	Educational
For The Blind, Talking A.T.M.'S	2000	Finance
Bridging A Gap For Blind PC Users	1991	Educational
Web Access For The Blind	1998	Entertainment
Blind Win Court Ruling On U.S. Currency	2008	Finance
Reading Machines For The Blind At A Lower Cost	1992	Educational
With Changes In New York's Streets, More Hurdles For	2012	Educational

The City's Blind Pedestrians		
Suit Seeks To Make Sidewalks More Accessible For Disabled New Yorkers	2014	Safety
Books For The Blind Go Digital	2001	Educational
New Yorkers Are Still Willing To Help The Blind	1989	Safety
Camp Is Low Hurdle For Blind	1972	Entertainment
Disabled Fight To Insure Their Rights	1993	Educational
Special Radio Station Keeps Handicapped In Touch	1975	Entertainment
Braille Publisher Shows Way To A Wider World	1987	Educational
The Magnifying Glass Gets An Electronic Twist	2008	Entertainment
Making Appliances That Suit The User	1986	Entertainment
Blind Are Trained; To 'Read' Instruments In Newark Program	1977	Educational
Supersensitive Machines Help The	1991	Educational

Disabled Communicate		
The Blind Welcome a Ruling That May Help Them Count Their Cash	2008	Finance
Latest in Technology Gives Life a Clearer Focus	2006	Entertainment
Device Offers Partial Vision for the Blind	2013	Entertainment
Making Art Accessible to the Disabled	2001	Entertainment
Aiding the Near Blind; New York Times Large Type	1967	Educational
At Museo del Prado, Blind Visitors Can Touch Masterpieces	2015	Entertainment
Airline Use Found Hard For Disabled	1999	Safety
New Playground Allows Disabled to Really Play	1997	Entertainment
Precious Eyes	2013	Educational
Making a Nature Trail More Inviting to Everyone	1997	Entertainment
For the Blind, Technology Does What a Guide Dog Can't	2009	Educational
Gaining in Years, and Helping Others to Make Gains	2014	Entertainment
MoMA Helps Visitors To Use Ears To See;	2005	Educational

Changing How Qatar Sees the Blind	2010	Educational
Electronic System To Guide The Blind Meets Some Opposition	1984	Entertainment
Remarkable Skaters	1985	Sports
Partnerships On Powder	2004	Entertainment
For Two Fans With Poor Vision, Jitters Over Citi Field	2008	Sports
Sea Show By Youths With Visual Handicap	1977	Entertainment
Changing Assumptions	2003	Educational
Columbia Given \$2-Million For Educating Handicapped	1967	Finance
Without Sight, Works Of Vision	2000	Educational
Metro Business; Suite For The Blind To Open	1997	Entertainment
LIBRARY ON TAPE BEGUN FOR BLIND	1957	Educational
Avis Offers Equipment For The Disabled	2003	Entertainment
Lighthouse Singers Teach Chorus A Lesson	2008	Entertainment
How To Help The Disabled Pay Their Own Way; Facilities At Theater	1989	Finance

Metro Briefing New York: Manhattan: Dispute Over Voice-Dialing	2004	Entertainment
Taste Of Flowers	2008	Entertainment
Blind Woman Came To City For Marathon, And Stayed	2007	Entertainment
Preparing For Sightlessness	2010	Educational
Uncertainty In The Figures	1977	Educational
A Sculpture Is Created With The Blind In Mind	1988	Entertainment
When The Orphans Saw 'Annie'	2005	Entertainment
Device Helps The Blind Avoid Clothes That Clash	2000	Entertainment
Trischa Zorn Wins Fifth Gold	1984	Sports
Listening To The Way Movie Characters Look	1992	Entertainment
A Phone Center For Disabled	1981	Entertainment
Advocates Say Cutbacks Threaten State's Help For The Blind	1996	Finance
Blind Student Speaks Of Private Struggle	1995	Educational
Getting To Top Of Empire State: Opening The Way For Disabled	1994	Entertainment
Colorado Meet Lures Disabled Skiers	1990	Sports

For Manning, A Golf Tournament With A Purpose	2012	Sports
A Sidewalk Mystery, Solved	2013	Safety
A Sprint And Leap Into The Unknown	2012	Entertainment
The Sightless Learn Dancing, And More	1989	Entertainment
Dozen Sets Of Parents Before Trust Is Fostered	1999	Educational
'TEAM APPROACH' AIDS HANDICAPPED;	1951	Educational
Artist Depicts His Inner, And Only, Vision	1987	Entertainment
Itineraries; Convenience, But Not For Everyone	2005	Educational
Where 'No One Notices You're Blind'	1989	Educational
A Great Equalizer For The Disabled	1988	Educational
Sweeping U.S. Law To Help Disabled Goes Into Effect	1992	Educational
Italy's Take On Baseball For The Blind Fosters 'Sense Of Freedom'	2012	Sports
Just Because One's Vision Is Waning, Hope Doesn't Have To	2010	Educational
Electronic System To Guide Some Opposition 134	1984	Educational
Patents; ULTRASONIC BEAM AIDS BLIND	1981	Educational

About New York; Using The Big Top To Put Normalcy In The Lives Of 500	1989	Educational
Changing Cues For Copiers	2003	Educational
Special School Bus Assists Handicapped Students;	1956	Educational
Technology; A Wider Work Force By Computer	1990	Entertainment
Photographers Make Art As Another Way Of Seeing	2003	Entertainment
Disabled Show How They'd Run A Race	2001	Sports
Aids For Vision Loss, From Those Who've Been There	2017	Educational
Crafting For The Body And Soul	2009	Health
Mastering A Collision Course Called Home	2014	Educational
Listening To Braille	2009	Educational
Giving Sight By Therapy With Genes	2009	Educational
Budding Ballerinas Learn To Dance	1989	Entertainment
Audience Enters A Sightless World,	2013	Educational
Metropolitan Diary	2009	Educational
Building A Clear Vision Of Independence	2007	Educational

For Disabled, It's Hooray For Hollywood	2005	Entertainment
For A Half-Century, She Has Led The Blind	2017	Educational
Visions Of A Blind Photographer	2012	Entertainment
Love At First Touch	2008	Entertainment
Hoping To Raise Awareness, 2 Leading Groups	2013	Educational
Where Dogs See And Gadgets Talk	1996	Educational
HANDICAPPED GET HEAD START ROLE; Preschool Project	1974	Educational
Blind Children Take A Small Step Toward Public School	2000	Educational
Navigating The City Without Sight, But With A Cane And A Teacher	2011	Educational
Ailey Teaching Dance To Blind Teen-Agers	1982	Entertainment
Chinese High Jumper Sets Record At Paralympic Games	1966	Sports
At Work; A Level Playing Field, For Just \$121	1995	Educational
Broadway	2000	Entertainment

Making A Nature Trail More Inviting To Everyone	1997	Safety
Joy, Seen And Heard With The Heart	1989	Entertainment
Science Of Sight Is Progressing, But Still Dimly Understood: Don't Be So Sure That Bright Lights Are Good.	1975	Educational

Theme and Frame Analysis

Theme/Frame	Description	Number of Articles
Episodic	Focus on personal lifestyles and suggest individual solutions or cures to health-related issues.	51 of 166
Thematic	Places more emphasis on the connection between issues and society, promoting a shared responsibility.	96 of 166
One-sided	Presenting the positive side of an argument	83 of 166
Two-sided	Presenting both the positive and negative side of an argument.	83 of 166
Stereotypical	Oversimplified idea of a particular type of person or thing.	50 of 166
Informative	Providing useful or interesting information	96 of 166

Supercrip	Classifies disabled individuals as deviant because of superhuman feats or abilities.	20 of 166
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Article and Frame Analysis

Article	Frame
<i>Technology Helps The Blind On The Job</i>	Thematic
<i>Defense For The Visually Impaired</i>	Episodic
<i>High-Tech Solutions For Visually Impaired</i>	Thematic
<i>For The Visually Impaired, Money Talks</i>	Thematic
<i>Teaching English To The Visually Impaired</i>	Episodic
<i>Enhancing Television For The Visually Impaired</i>	Thematic
<i>An App To Aid The Visually Impaired</i>	Thematic
<i>The Visually Impaired Will Get More To Read</i>	Episodic
<i>Technology Eases The Way For The Visually Impaired</i>	Thematic
<i>Disruptions: Visually Impaired Turn To</i>	Episodic

<i>Smartphones To See Their World</i>	
<i>Device From Israeli Start-Up Gives The Visually Impaired A Way To Read</i>	Thematic
<i>The Education Of The Blind And Deaf Children</i>	Thematic
<i>Where A Screen Isn't An Option, A Hand-Held Uses Audio</i>	Thematic
<i>The Vision To Depict It Their Way</i>	Episodic
<i>Vision-Impaired Children Guide Toy Shoppers</i>	Thematic
<i>Sight Impaired, 60 Try Life At Drew</i>	Episodic
<i>An Accessibility Map For The Impaired</i>	Thematic
<i>Times To Publish Weekly In Large-Size Type; 1st Edition Planned</i>	Thematic
<i>Runner With Impaired Sight Sets Olympic Berth As A Goal</i>	Episodic
<i>The Voice Of The Crosswalks</i>	Thematic
<i>The Sound Of Tennis</i>	Thematic
<i>For The Blind</i>	Episodic
<i>Changing Assumptions</i>	Thematic

<i>The Disabilities Act Is For The Blind, Too</i>	Thematic
<i>Helping The Blind Make Safe Landfall On Columbus Circle</i>	Episodic
<i>Talking Of Vision, And The Lack Of It</i>	Thematic
<i>VISION CLASSES OPPOSED;</i>	Thematic
<i>TV For The Blind</i>	Thematic
<i>An Iphone App Helps The Blind Identify Currency</i>	Thematic
<i>Signals For Those Who Can't See The 'Don't Walk' Sign</i>	Thematic
<i>Helping The Blind Enjoy The Show</i>	Thematic
<i>Sometimes Disabled Need Help, But Don't Ask; A Good Samaritan</i>	Episodic
<i>Qwerty For The Blind</i>	Thematic
<i>Blind Woman's Subway Death Exposes Platform Safety Flaws; Install Warning Strips</i>	Episodic
<i>Making The Web Speak</i>	Thematic

<i>Art Appreciation For The Blind</i>	Thematic
<i>Views Of The Blind</i>	Thematic
<i>New York Should Raise Supplemental Security</i>	Episodic
<i>New Yorkers Are Still Willing To Help The Blind; Discrimination At State</i>	Thematic
<i>How Best To Teach The Blind: A Growing Battle Over Braille</i>	Episodic
<i>Please, Is This \$1 Or \$100?</i>	Thematic
<i>Library For Blind To Move, And Grow</i>	Episodic
<i>Concert Programs In Braille Applauded</i>	Thematic
<i>Court Says Broadcasters Don't Have To Offer Technology For Blind</i>	Thematic
<i>Help For The Blind And Dyslexic</i>	Thematic
<i>Disabled Triathletes Unhappy About Rules Changes</i>	Episodic
<i>Internet For The Blind</i>	Thematic
<i>Account Of Being Blind Is An Incomplete Picture</i>	Episodic

<i>Electronic Voting Machines Let Disabled Choose In Private</i>	Thematic
<i>In Paralympic Goalball, Resourceful Listeners Face A Hard Thrower</i>	Episodic
<i>News Is Taped For Disabled</i>	Thematic
<i>A Helping Hand That Magnifies Even The Fine Print</i>	Thematic
<i>New TV System Offers Descriptions For Blind</i>	Thematic
<i>Touch Time, For The Blind And Everyone Else</i>	Thematic
<i>The Vision Thing</i>	Thematic
<i>See Me, Hear Me: A Video Game For The Blind</i>	Thematic
<i>Blind But Mobile</i>	Thematic
<i>If It Feels Like A Dollar</i>	Thematic
<i>East Orange Journal; Volunteers Make Textbooks That Open The World To The Blind</i>	Episodic
<i>Blind Users Add Access On The Web</i>	Episodic
<i>I.B.M. To Introduce Software For The Blind</i>	Episodic
<i>For The Blind, Talking A.T.M.'S</i>	Thematic

<i>Bridging A Gap For Blind PC Users</i>	Thematic
<i>Web Access For The Blind</i>	Thematic
<i>Blind Win Court Ruling On U.S. Currency</i>	Thematic
<i>Reading Machines For The Blind At A Lower Cost</i>	Thematic
<i>With Changes In New York's Streets, More Hurdles For The City's Blind Pedestrians</i>	Thematic
<i>Suit Seeks To Make Sidewalks More Accessible For Disabled New Yorkers</i>	Episodic
<i>Books For The Blind Go Digital</i>	Thematic
<i>New Yorkers Are Still Willing To Help The Blind</i>	Thematic
<i>Camp Is Low Hurdle For Blind</i>	Episodic
<i>Disabled Fight To Insure Their Rights</i>	Thematic
<i>Special Radio Station Keeps Handicapped In Touch</i>	Thematic
<i>Braille Publisher Shows Way To A Wider World</i>	Episodic
<i>The Magnifying Glass Gets An Electronic Twist</i>	Thematic

<i>Making Appliances That Suit The User</i>	Thematic
<i>Blind Are Trained; To 'Read' Instruments In Newark Program</i>	Thematic
<i>Supersensitive Machines Help The Disabled Communicate</i>	Thematic
<i>The Blind Welcome a Ruling That May Help Them Count Their Cash</i>	Thematic
<i>Latest in Technology Gives Life a Clearer Focus</i>	Thematic
<i>Device Offers Partial Vision for the Blind</i>	Thematic
<i>Making Art Accessible to the Disabled</i>	Thematic
<i>Aiding the Near Blind; New York Times Large Type Weekly Is Latest Publication in Special Field</i>	Episodic
<i>At Museo del Prado, Blind Visitors Can Touch Masterpieces</i>	Thematic
<i>Airline Use Found Hard For Disabled</i>	Episodic
<i>New Playground Allows Disabled to Really Play</i>	Thematic
<i>Precious Eyes</i>	Episodic
<i>Making a Nature Trail More Inviting to Everyone</i>	Thematic

<i>For the Blind, Technology Does What a Guide Dog Can't</i>	Thematic
<i>Gaining in Years, and Helping Others to Make Gains</i>	Episodic
<i>MoMA Helps Visitors To Use Ears To See</i>	Thematic
<i>Changing How Qatar Sees the Blind</i>	Episodic
<i>Electronic System To Guide The Blind Meets Some Opposition</i>	Thematic
<i>Remarkable Skaters</i>	Episodic
<i>Partnerships On Powder</i>	Episodic
<i>For Two Fans With Poor Vision, Jitters Over Citi Field</i>	Episodic
<i>Sea Show By Youths With Visual Handicap</i>	Episodic
<i>Changing Assumptions</i>	Episodic
<i>Columbia Given \$2- Million For Educating Handicapped</i>	Thematic
<i>Without Sight, Works Of Vision</i>	Episodic
<i>Metro Business; Suite For The Blind To Open</i>	Thematic

<i>Text Books Being Recorded By Faculty And Students At City College And N.Y.U.</i>	Thematic
<i>Avis Offers Equipment For The Disabled</i>	Thematic
<i>Lighthouse Singers Teach Chorus A Lesson</i>	Episodic
<i>How To Help The Disabled Pay Their Own Way; Facilities At Theater</i>	Thematic
<i>New York: Manhattan: Dispute Over Voice-Dialing</i>	Episodic
<i>Taste Of Flowers</i>	Episodic
<i>Blind Woman Came To City For Marathon, And Stayed</i>	Episodic
<i>Preparing For Sightlessness</i>	Thematic
<i>Uncertainty In The Figures</i>	Thematic
<i>A Sculpture Is Created With The Blind In Mind</i>	Thematic
<i>When The Orphans Saw 'Annie'</i>	Episodic
<i>Device Helps The Blind Avoid Clothes That Clash</i>	Thematic
<i>Trischa Zorn Wins Fifth Gold</i>	Episodic

<i>Listening To The Way Movie Characters Look</i>	Thematic
<i>A Phone Center For Disabled</i>	Thematic
<i>Advocates Say Cutbacks Threaten State's Help For The Blind</i>	Thematic
<i>Blind Student Speaks Of Private Struggle</i>	Episodic
<i>Getting To Top Of Empire State: Opening The Way For Disabled</i>	Thematic
<i>Colorado Meet Lures Disabled Skiers</i>	Episodic
<i>For Manning, A Golf Tournament With A Purpose</i>	Episodic
<i>A Sidewalk Mystery, Solved</i>	Thematic
<i>A Sprint And Leap Into The Unknown</i>	Thematic
<i>The Sightless Learn Dancing, And More</i>	Episodic
<i>Dozen Sets Of Parents Before Trust Is Fostered</i>	Thematic
<i>Specialists Work With Various Groups, Prepare And Place 71,543 In Jobs In Year</i>	Episodic
<i>Artist Depicts His Inner, And Only, Vision</i>	Episodic

<i>Itineraries; Convenience, But Not For Everyone</i>	Thematic
<i>Where 'No One Notices You're Blind'</i>	Episodic
<i>A Great Equalizer For The Disabled</i>	Thematic
<i>Sweeping U.S. Law To Help Disabled Goes Into Effect</i>	Thematic
<i>Italy's Take On Baseball For The Blind Fosters 'Sense Of Freedom'</i>	Thematic
<i>Just Because One's Vision Is Waning, Hope Doesn't Have To</i>	Thematic
<i>Electronic System To Guide Some Opposition 134</i>	Thematic
<i>Patents; ULTRASONIC BEAM AIDS BLIND</i>	Thematic
<i>About New York; Using The Big Top To Put Normalcy In The Lives Of 500</i>	Thematic
<i>Changing Cues For Copiers</i>	Thematic
<i>Special School Bus Assists Handicapped Students</i>	Thematic
<i>Technology; A Wider Work Force By Computer</i>	Thematic
<i>Photographers Make Art As Another Way Of Seeing</i>	Episodic

<i>Disabled Show How They'd Run A Race</i>	Episodic
<i>Aids For Vision Loss, From Those Who've Been There</i>	Thematic
<i>Crafting For The Body And Soul</i>	Thematic
<i>Mastering A Collision Course Called Home</i>	Thematic
<i>Listening To Braille</i>	Thematic
<i>Giving Sight By Therapy With Genes</i>	Thematic
<i>Budding Ballerinas Learn To Dance Without Sight And Without Fear</i>	Episodic
<i>Audience Enters A Sightless World, Where Listening Becomes A Lifeline</i>	Episodic
<i>Metropolitan Diary</i>	Thematic
<i>Building A Clear Vision Of Independence</i>	Thematic
<i>For Disabled, It's Hooray For Hollywood</i>	Episodic
<i>For A Half-Century, She Has Led The Blind With Chutzpah (And Often, No Cane)</i>	Episodic
<i>Visions Of A Blind Photographer</i>	Episodic
<i>Love At First Touch</i>	Thematic

<i>Hoping To Raise Awareness, 2 Leading Groups For The Blind Plan A Merger</i>	Thematic
<i>Where Dogs See And Gadgets Talk</i>	Thematic
<i>Preschool Project Widened For Up To 38,000 Children</i>	Thematic
<i>Blind Children Take A Small Step Toward Public School</i>	Episodic
<i>Navigating The City Without Sight, But With A Cane And A Teacher</i>	Episodic
<i>Ailey Teaching Dance To Blind Teen-Agers</i>	Episodic
<i>Chinese High Jumper Sets Record At 161 Paralympic Games</i>	Episodic
<i>At Work; A Level Playing Field, For Just \$121</i>	Thematic
<i>Broadway</i>	Thematic
<i>Making A Nature Trail More Inviting To Everyone</i>	Thematic
<i>Joy, Seen And Heard With The Heart</i>	Thematic
<i>Science Of Sight Is Progressing, But Still Dimly Understood</i>	Thematic
