An Overview of Video Description: History, Benefits, and Guidelines

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Abstract: This article provides an overview of the historical context in which video description services have evolved in the United States, a summary of research demonstrating benefits to people with vision loss, an overview of current video description guidelines, and information about current software programs that are available to produce video description.

Although surprising to some, it has been shown that people who are visually impaired (that is, those who are blind or have low vision) are as likely to own televisions and other entertainment technology as those who are sighted and to watch television for almost as many hours per week as those who do not have vision loss (Packer & Kirchner, 1997). Although much of the information provided by television and other video sources is expressed through audio, a lot of visual information is missed by people who have vision loss. *Video description,* a technique to add additional audio information that elaborates on visual content, was developed in order to make video content more accessible. Typically, the extra audio is inserted into the video so that it does not interfere with essential dialogue and sounds.

Video description can be used for television, film, Internet videos, theater, and the arts—any medium that includes visual information that is not obvious to those who are only listening or have trouble seeing. Description that is delivered live, such as that provided to theater goers, is often referred to as "audio description." This article will focus on the description of video content rather than live description.

A recent piece of legislation in the United States marked a pivotal moment in the history of video description in the United States. The Twenty-First Century Communications and Video Accessibility Act of 2010 was passed, requiring certain television entities to include video description in a portion of their prime time and children's programming. This requirement began in 2012, and is scheduled to expand more broadly throughout the next decade. (A full listing of current television programming that includes video description is available from the American Foundation for the Blind [2015]; the full text of the legislation and subsequent regulations are available from the Federal Communications Commission [2010].)

As this monumental change is proceeding, it is appropriate to document the state

of the field of video description, describe its history to the present day, detail its benefits to people with vision loss, relate its generally accepted guidelines and practices in the field, and report on available software to facilitate the process of creating video description. In an effort to be as comprehensive as possible, the authors examined the literature and consulted with experts from the Description Leadership Network, a group of professionals and organizations that specialize in video description, which was assembled in 2011 by the Video Description Research and Development Center at Smith-Kettlewell.

History of video description

One can easily imagine that long before television and films were around, people who were sighted would provide critical information and describe visual surroundings to people who were visually impaired. Similarly, it is reasonable to assume that since the advent of film and television, people who are visually impaired have attended movies and listened to television along with friends and family members, and that these companions described some of the crucial visual information so the person with vision loss could understand and enjoy this recreational and often educational activity. As early as 1951, the Hollywood movie *Bright Victory* portrayed a war veteran who is blind in a scene at a movie theater where his girlfriend explains to him what is going on visually in the film, much to the annoyance of other patrons sitting nearby. With the modern development of video description, people with vision loss who watch described programming are no longer dependent on the assistance of people who are sighted to understand the content.

The following historical milestones for video description were culled from conversations with individuals involved in the video description field as well as from other sources (Audio Description Coalition, 2013a; Audio Description Project, 2010; Described and Captioned Media Program, 2013a; Packer & Gutierrez, 1997; Snyder, 2007; Video Programming Accessibility Advisory Committee, 2012; Washington Ear, nd).

Conceiving the idea

The idea of making television or video accessible to people who are visually impaired by adding additional audio was conceived by several people, reportedly independently of each other. The earliest idea for formal video description came about in the mid-1960s, when Chet Avery, an employee at the U.S. Department of Education, made a suggestion that in addition to captioning for people who are hard of hearing there ought to be description for people who are visually impaired, and later encouraged blindness advocacy organizations to seek funding to add description to film.

The first concrete work on video description happened in the mid-1970s. Gregory Frazier, who was earning a graduate degree in broadcasting, independently thought of the concept of video description and wrote his master's thesis in 1975 on the topic, presenting a description narrative for the film *The Autobiography of Miss Jane Pittman*. At that time, Frazier's idea was to simulcast the described audio over the radio while the program was broadcast on television. Frazier attempted to obtain funding for his idea, but was unsuccessful at that time.

In 1981, Margaret Rockwell (later Pfanstiehl), the founder of Metropolitan Washington Ear, a radio reading service in the Washington, DC, area, also independently came up with the idea of description, and started a project providing audio description for live theater. She invited an acquaintance, Cody Pfanstiehl, to work with her on the project. In 1982, Margaret Pfanstiehl had the idea of providing description for television programs, and contacted Public Broadcasting Service (PBS). PBS agreed to allow her to simulcast a description track through her radio reading service.

Barry Cronin of WGBH, the local PBS station in Boston, had a background in closed captioning for individuals who are deaf or hard of hearing, and was working on ideas to use a new television technology, the Second Audio Program (SAP), which was part of the stereo television standard known as Multichannel Television Sound (MTS). He developed the idea of video description in 1984, independently of Frazier and Margaret Pfanstiehl.

CREATION OF THE FIRST VIDEO DESCRIPTION SERVICES

Three different video description entities were formed in 1988. As Barry Cronin began to work on the idea of video description, he heard about the Pfanstiehls' work and asked them to work with WGBH on creating a national video description service by training describers. Descriptive Video Service (DVS) was established at WGBH in 1988. With the help of the Pfanstiehls, DVS conducted a one-year national test of video description on *American Playhouse*, which was the first television show to be televised with video description. DVS was then able to obtain grants from various sources to provide further video description.

That same year, Jim Stovall formed Narrative Video Network, a venture to describe older television programs and videos. Later, the name of the company was changed to Narrative Television Network (NTN). NTN partnered with Nostalgia Cable and The Family Channel to provide description for classic films.

Also in 1988, Gregory Frazier, in partnership with August Coppola, brother of film director Francis Ford Coppola, formed the Audio Description Institute in San Francisco under a grant from the San Francisco Foundation. Their describers were trained by the Pfanstiehls. Three years later, Frazier and his partner, Ida C. Johnson, founded a nonprofit organization, AudioVision, which offered video description, and they conducted the first research on the effectiveness of video description in educational videos.

The television broadcast industry recognized the achievement of the early work of these video description pioneers by awarding the Emmy—an award recognizing excellence in the television industry bestowed by the U.S. Academy of Television Arts & Sciences—for Outstanding Achievement in Technical/Engineering Development to Margaret Pfanstiehl, PBS, NTN, and Gregory Frazier in 1990 (Washington Ear, nd).

LEGISLATION AND FUNDING

Advocacy for federal funding of video description began in the late 1980s. WGBH worked with the American Foundation for the Blind (AFB) and, in particular, AFB's then-director of governmental relations, Scott Marshall, to pursue federal legislation to provide funding. In 1989, the

Department of Education appropriated funds for video description, which were distributed in 1991. The Department of Education awarded funds to WGBH to expand the amount of described programming on PBS and to develop a venture to record and sell described films on video. Paramount and Disney were the first film studios to agree to have a selection of their films described. As the service expanded, Blockbuster Video agreed to carry described videos in their stores, as did many public libraries throughout the United States. In 1992, NTN also received funding from the Department of Education to provide video description on television. In the years since, the Department of Education has awarded grants to additional entities to develop description for television programming, including Bridge Multimedia, National Captioning Institute, CaptionMax, and Dicapta.

The Department of Education solicited grant applications in 1993 under the category of "Research on Video Description" (CFDA #84.026G), and subsequently awarded a grant in 1994 to AFB, with a subcontract to WGBH, to study the potential audience for video description and methods of distributing description. AFB's study of video description resulted in the 1997 publication of the book *Who's Watching? A Profile of the Blind and Visually Impaired Audience for Television and Video* (Packer & Kirchner, 1997), which established that: individuals who are visually impaired watch television with approximately the same frequency as the general population; many with vision loss are interested in gaining access to television programming through video description; and those familiar with video description report obtaining numerous benefits from it.

The Described and Captioned Media Program (DCMP) of the National Association of the Deaf received funding from the Department of Education in 2008 to develop guidelines for describing and captioning educational media. DCMP collected information from an expert panel that consisted of members from various organizations that were involved with video description, as well as teachers and parents of children who are visually impaired, and created a detailed guide for producers of video description for educational media called the "Description Key" (Described and Captioned Media Program, 2013b).

In 2000, the Federal Communications Commission (FCC) adopted rules for video description that required the four major commercial broadcasters and the top five cable or satellite providers (those with more than 50,000 subscribers) to offer video description for a minimum number of hours per quarter. In 2002, however, the U.S. Court of Appeals for Washington, DC, vacated the FCC ruling, because they said that the Telecommunications Act of 1996 did not give the FCC the authority to enact rules on video description, and that the FCC therefore exceeded its jurisdiction. Several years later, The Twenty-First Century Communications and Video Accessibility Act of 2010 was passed, and this order reinstated the video description mandate that had been adopted by the FCC in 2000. The law became effective in July 2012, and the number of required hours of description is set to increase throughout the next decade. The mandate covers only television and does not provide the FCC with

the authority to require description for online media.

The Department of Education provided funds to establish a Video Description Research and Development Center (VDRDC) in 2011 at the Smith-Kettlewell Eye Research Institute, under the leadership of Joshua Miele. The VDRDC, in conjunction with a coalition of individuals and organizations involved in video description (the Description Leadership Network), worked on developing new technologies and techniques for improving the accessibility of video materials for students who are blind or visually impaired. Organizations included in the Description Leadership Network are listed online at http://www.vdrdc.org/dln.

CONFERENCES AND COALITIONS

Since the late 1980s, individuals with an interest in video description have developed various coalitions with other interested parties, and several formal conferences related to video description have taken place. When the Department of Education began appropriating funds for video description in 1989, AFB saw an opportunity to initiate a dialogue among all the major players. In 1990, AFB coordinated a meeting that resulted in the publication of the AFB Press book *A Picture Is Worth a Thousand Words for Blind and Visually Impaired Persons Too!—An Introduction to Audiodescription* (Ellis, 1991), which was the first published book to address video description. The book included information on the history of video description and a list of organizations that were involved with description at that time.

Margaret Pfanstiehl formed the National Television Access Coalition (NTAC) in 1994, which consisted of 17 national disability organizations in the United States including AFB and the American Council of the Blind (ACB). They worked with Congress to encourage a federal mandate for video-described programming.

The first international conference on description was held in 1995, hosted by the Kennedy Center for the Performing Arts in Washington, DC. One of the outcomes of the conference was the formation of an international organization that could act as a clearinghouse for video description information and focus on advocacy and networking. A steering committee was formed, and Joel Snyder became chair of the conference planning committee. The organization was eventually named Audio Description International (ADI) and was officially established in 1998.

The Association of Theater and Disability held a conference on video description in 1996 in Atlanta, Georgia. Participants reported on theater description activities in their local areas and states. Although much of the focus was on theater description, access issues were relevant to description in all media and settings.

In 2002, the Kennedy Center held a second international meeting in Washington, DC. Officers and board members were elected to lead ADI, and Barry Levine was elected its president.

A group called the the Audio Description Coalition (ADC) was formed in 2006 to document best practices and standards for description, which resulted in the 2007 document "Standards for Audio Description and Code of Professional Conduct for Describers"; the document was subsequently updated in 2009 (Audio Description Coalition, 2013b). ADC's

founding members include Betty Siegel of the John F. Kennedy Center for the Performing Arts in Washington, DC, as well as others involved with live description of performances and museum exhibits. ADC focuses on training, mentoring, and professional development for describers.

In 2009, ACB launched its Audio Description Project (ADP), replacing ADI, with Joel Snyder as director. A conference was held that year in Orlando, Florida, and in 2010 a second conference was held in Phoenix, Arizona.

In 2012 and 2013, the VDRDC held annual conferences of the Description Leadership Network in San Francisco, California. The coalition of experts on video description shared information and discussed ideas about applying the use of new technology to video description.

Benefits of video description

There have been a number of articles and research studies that have addressed how video description benefits audience members who are blind or visually impaired; however, very few of these investigations meet stringent scientific criteria. In a literature search and meta-analysis of literature on video description for children (Ferrell, Finnerty, & Monson, 2007), of the 165 English-language references found addressing video description, only one study had child participants and met stringent scientific standards (that is, an intervention with a comparison group that was published in a peer-reviewed journal). The one study that met the criteria (Ely et al., 2006) found that children demonstrated better knowledge of content after listening to video clips with enhanced description (the addition of extra described information during inserted pauses in the video) than with clips that did not include enhanced description.

In other studies, video description has been shown to contribute to gains in knowledge and understanding (Frazier & Coutinho-Johnson, 1995; Katz & Turcotte, 1993; Packer & Kirchner, 1997; Pettitt, Sharpe, & Cooper, 1996; Schmeidler & Kirchner, 2001; Simpson, 1999); greater information retention (Schmeidler & Kirchner, 2001); increased interest and enjoyment (Fryer & Freeman, 2012; Packer & Kirchner, 1997; Pettitt et al., 1996; Schmeidler & Kirchner, 2001); better social connection (Packer, 1996; Packer & Kirchner, 1997; Schmeidler & Kirchner, 2001); and increased knowledge about the visual world (Packer, 1996).

Guidelines for video description

Numerous guidelines for writing video description are available online from a large number of sources in the United States and in other countries where video description is available. See Box 1 for Internet links to some of the more widely used guidelines.

One of the most comprehensive set of guidelines is the DCMP Description Key. The DCMP, working with AFB, conducted a thorough literature search and meta-analysis of guidelines and practices (Ferrell et al., 2007). This search was followed by an evaluation of strategies for describing educational materials by an expert panel. The result was the DCMP Description Key, a compilation of the most critical considerations for describing educational materials. See Box 2 for a list of some of the most important guidelines in the Description Key. Although

United States

American Council of the Blind's Audio Description Project
www.acb.org/adp/ad.html
Audio Description Coalition
www.audiodescriptioncoalition.org/standards.html
Carl and Ruth Shapiro Family National Center for Accessible Media at WGBH (NCAM)
http://ncam.wgbh.org/experience_learn/educational_media/stemdx/guidelines
Described and Captioned Media Program
www.dcmp.org/descriptionkey

Other countries

Australia
http://mediaaccess.org.au/practical-web-accessibility/media/audio-description-guidelines
Canada
www.itu.int/ITU-D/sis/PwDs/Documents/DVBPGDE%20Version%201.pdf
France
http://audiodescription-france.org/
Spain
www.aenor.es/aenor/normas/normas/fichanorma.asp?codigo=N0032787&tipo=N&PDF=Si
United Kingdom
www.ofcom.org.uk/static/archive/itc/itc_publications/codes_guidance/audio_description/index.asp.html

Box 1

the Description Key focuses on educational materials, the complete set of guidelines encompasses most of the specific practices mentioned in other guidelines that address a wider set of materials.

The Royal National Institute for the Blind (RNIB) conducted a study (Rai, Greening, & Petré, 2010) that compared the prevalent video description guidelines of six countries—France, Germany, Greece, Spain, the United Kingdom, and the United States. For the United States, RNIB chose the Audio Description Project guidelines (Audio Description Project, 2002). Although they found a few minor differences between the six sets of guidelines, they all included very similar rules for description. Only two major differences arose:

• The U.K. guidelines recommend that characters be named immediately, unless it is crucial to the plot that they be unnamed. The German, French, and Greek guidelines and those of the Audio Description Project in the United States recommend that, when reasonable, names be withheld until they are mentioned within the video.

Box 2

• The U.K. guidelines encourage describers to use terms such as pretty or handsome when relevant to the story, whereas the German and ADP guidelines recommend using only impartial terms and letting the viewer create a vision of the character.

VIDEO DESCRIPTION SOFTWARE

In recent years, description-generating software has been developed to make the production of video description simpler and more cost-effective. Box 3 lists six current software programs that produce video description. The first four are available for free, and the remaining two are available for purchase. Each of these programs is designed to allow individuals to perform most or all of the following tasks: detect spaces in the original audio where there is no dialogue, time those spaces, record descriptions, edit descriptions, and encode them into the video in the proper place. None of these software programs automatically creates parts of the description script based on the images or scenes; such technology is known as Automated Algorithmic Description (Smith-Kettlewell Eye Research Institute, 2012), although it is still in the theoretical stage and has not yet been used in practice.

Conclusion

The passing of the Twenty-First Century Communications and Video Accessibility Act of 2010 marked a critical juncture in the availability of video description for people who have vision loss. This increase in the amount of video description on television, and the publicity surrounding these changes, has likely led to a greater awareness among the public about the existence of, and need for, the increased accessibility afforded by description. Although video description began to be implemented more than three decades ago, progress has been slow. In recent years, however, the rate of that progress has begun to accelerate.

Many guideline documents exist and most agree on the salient points. These

Video description software

Free

CapScribe

  (Inclusive Media and Design, 2012)

  Mac-based tool used to create both descriptions and captions developed by Inclusive Media and Design, a Canadian company. It is available for free to students, public sector organizations, nonprofit organizations, and to some individuals. In order to download it, you must e-mail a statement regarding how the software will be used to: info@inclusivemedia.ca.

Live Describe

  (Branje, 2006; Branje & Fels, 2012)

  Developed by graduate student Carmen Branje for the purpose of allowing amateur describers to create video description.

  www.livedescribe.com

MAGPie

  (National Center for Accessible Media, 2009)

  Developed by the Carl and Ruth Shapiro Family National Center for Accessible Media at WGBH to produce captions, subtitles, and video description on Windows PCs, although it is used mostly for captioning. It allows for multiple description tracks if desired.

  http://ncam.wgbh.org/invent_build/web_multimedia/tools-guidelines/magpie

YouDescribe

  (Video Description Research and Development Center, 2013)

  Created by the VDRDC at Smith-Kettlewell, it allows users to describe YouTube videos using an online interface

  http://youdescribe.org

Available for purchase

Swift ADePT

  (Softel Group, 2010)

  Developed by the Softel Group, a British company, to create video description. The company offers additional software for captioning.

  www.softelgroup.com/Downloads/Swift-ADePT-page/Swift-ADePT-Datasheet.pdf

AutoDescription

  (CPC, 2012)

  Developed by Computer Prompting and Captioning Company to create video description. The company offers additional software for captioning.

  www.prweb.com/releases/audio/description/prweb9399586.htm

Box 3

guidelines will continue to improve as additional research is conducted to establish what methods work best with which particular audiences (for instance, people who are blind versus those with low vision).

The availability of software tools, many free of cost, is making it easier for individuals

to produce description, providing new opportunities for people to create video description on a small or no budget. Software has the potential to easily allow volunteers to provide description for additional video material that is not yet described; however, it is essential that volunteer describers receive training in order to increase the likelihood that high-quality description will be created.

The increase in availability of described material will have a positive impact on the lives of people who are visually impaired. It will ensure that people with vision loss have greater access to the entertainment, cultural, and educational materials to which those with sight have unimpeded access.

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