2009/2010

captioning key

for educational media

GUIDELINES AND PREFERRED TECHNIQUES

A PUBLICATION OF THE

Described and Captioned
Media Program

Captioning Key for Educational Media

Produced by:

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WELCOME TO THE DCMP *CAPTIONING KEY*

Captioning is the key to opening up a world of information for persons with hearing loss or literacy needs. There are more than 32 million Americans with some type of hearing loss. Millions of others are illiterate, learning to read, or use English as a second language.

These guidelines are a key for vendors performing captioning for the DCMP. (The DCMP provides information on how to become an approved vendor on our website.) The information is applicable to vendors and other businesses that provide closed captioning (CC) and subtitles for the deaf and hard of hearing (SDH). Thus, these guidelines will also be useful to media producers/distributors and others who are considering captioning their products or learning about captioning. Some background information and rationale are included for the novice.

A Definition of Captioning

Captioning is the process of converting the audio content of a television broadcast, webcast, film, video, CD-ROM, DVD, live event, or other productions into text and displaying the text on a screen or monitor. Captions not only display words as the textual equivalent of spoken dialogue or narration, but they also include speaker identification, sound effects, and music description.

It is important that the captions are (1) synchronized and appear at approximately the same time as the audio is delivered; (2) equivalent and equal in content to that of the audio, including speaker identification and sound effects; and (3) accessible and readily available to those who need or want them.

The DCMP Captioning Philosophy

The DCMP captioning philosophy is that all captioning should include as much of the original language as possible; words or phrases which may be unfamiliar to the audience should not be replaced with simple synonyms. Extreme rewriting of narration for captions develops problems, such as “watered-down” language and omitted concepts. Language should not be censored. Editing should only be done if required to meet a specified presentation rate.

Review by the DCMP

The DCMP has access to Swift (http://www.softel-usa.com/captions/swift.php) and CaptionMaker (http://www.cpcweb.com/dv/) software. Vendors using these software packages should send the DCMP electronic files for review (.o32 file, .tsd file, and video file for Swift, and .cap file and video file for Captionmaker). If minor changes are needed, the DCMP will make the changes and send a revised caption file to the vendor for creation of the master. When major changes are required, the DCMP will request that the vendor make the requested changes and send a new file for review.

For vendors that don’t have the aforementioned software, a time-coded window proof dub and electronic file of the caption script must be sent to the DCMP by all vendors performing DCMP work. The DCMP will notify the captioning vendor if changes are to be made, and a second dub (check dub) and/or revised caption script may be requested. Requested changes are penned on script pages which are scanned and e-mailed to the captioning vendor. (See *Appendix 1: Captioning Proofreading Marks* for information about how to interpret edits.)

Captioning vendors are expected to research spelling, capitalization, and punctuation. Company scripts are not always reliable. All research work should be reported on the *Appendix 2: Captioning Research Record* print-out. The time code or caption number must be indicated. A copy of the record should be sent to the DCMP along with the caption materials.

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Funding Credit

At the end of each DCMP media item, the following information should be added in caption form:

"Funding to purchase and make this educational production accessible was provided by the U.S. Department of Education: PH: 1-800-USA-LEARN (V) or WEB: www.ed.gov." No other credits or information should be added. Use the following line breaks:

> Funding to purchase and make
> this educational production
>
> accessible was provided by the
> U.S. Department of Education:
>
> PH: 1-800-USA-LEARN (V)
> or WEB: www.ed.gov.

About the *Captioning Key*

The first edition of the *Captioning Key* was developed in 1994. The Captioned Films and Videos Program (CFV), now the DCMP, was given the responsibility by the U.S. Department of Education to develop a list of approved captioning service vendors that would be selected by CFV to perform its captioning work. Captioning manuals were requested from major captioning vendors in the United States and utilized as a basis for developing the first *Captioning Key*. CFV staff experienced in writing and proofing/editing captions also contributed their expertise. This staff included Bill Stark, Dianne Stark, Teresa Rogers, and Missy McManus. Bill, Dianne, and Teresa continue with the DCMP today, and have contributed to all subsequent revisions of the *Captioning Key*.

About the Described and Captioned Media Program

The DCMP is a unique educational accessible media resource serving the United States and its territories. DCMP services are designed to support and improve the academic achievement of students who are blind, visually impaired, deaf, hard of hearing, or deaf-blind. Visit the DCMP website (http://www.dcmp.org) to learn about the only collection of free-loan accessible media, the only database of accessible media available for purchase, the only guidelines for educational description and captioning, and the only training and feedback resource for beginning description vendors. In addition, the DCMP is the premiere resource for educational description and captioning information, providing its own clearinghouse along with a gateway to additional resources provided by partners and collaborators.

2008 marks the Golden Anniversary of this federally supported program. Visit DCMP@Fifty (http://www.dcmp.org/dcmp-at-fifty) to read an article detailing the history of the program, a time line highlighting important events in accessible media history, and to access various resources for people interested in learning more about the program.

About the National Association of the Deaf

The National Association of the Deaf (NAD) (http://www.nad.org) was established in 1880 by deaf leaders who recognized the right of the American deaf community to use sign language, to congregate on issues important to them, and to have its interests represented at the national level. These beliefs remain true to this day, with American Sign Language as a core value. As a nonprofit federation, the mission of the NAD is to preserve, protect, and promote the civil, human, and linguistic rights of deaf Americans. The advocacy scope of the NAD is broad, covering the breadth of a lifetime and impacting future generations in the areas of early intervention, education, employment, health care, technology, telecommunications, youth leadership, and more.

TYPES, METHODS, AND STYLES

Types

Types of captioning vary according to how the captions appear, how they are accessed, and what information is provided.

Two types of captions exist today: “closed” and “open.” To understand the difference, one first needs to understand how the terms “closed” and ”open” originated.

Open captions, sometimes called subtitles, were developed specifically for both deaf and hard of hearing viewers. Captioned Films for the Deaf, a private corporation in the late 1940s, was the forerunner of the DCMP and produced the first open captions for entertainment and educational productions in 16mm format. Three decades later, closed captions were developed for television, and still later subtitles for the deaf and hard of hearing (SDH) were introduced on DVD. Not to be confused with subtitles for foreign films, captions and SDH display spoken language and narration along with providing speaker identification, sound effects, and other features.

The terms “closed” and “open” arose in part from the technology used to deliver TV captions. TV closed captions are hidden in line 21 of the analog video signal (also known as the vertical blanking interval or VBI). A set-top decoder or built-in chip must be used to decode, or open, the captions. Television captions are called “closed” because they must be decoded to become part of the television picture. Once decoded, captions are referred to as “open.” Most TV captions are referred to as “closed captions.”

The meaning of closed and open captions is similar, though slightly different, in the computer industry. In a PC environment, a closed caption is caption text that can be turned on or off and even styled by the user. An open caption is a caption that cannot be turned off—it is part of the static or dynamic image file; it is painted in the picture pixels. DVD captions for viewers who are deaf or hard of hearing may be turned on or off, and they are either called “closed captions” (decoder required) or “subtitles for the deaf and hard of hearing” (menu driven). Internet captions are generally referred to as “closed captions,” and they are media player–based (e.g., QuickTime, Windows Media, Flash, RealMedia).

Terminology to describe closed and open captions varies widely and is often confusing to consumers. The DCMP provides most of its media in open-captioned form, though it also provides closed captioning.

EXAMPLE: SUBTITLES FOR THE DEAF AND HARD OF HEARING (SDH)

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EXAMPLE: LINE 21 TELEVISION CAPTIONS IN UPPERCASE

EXAMPLE: LINE 21 TELEVISION CAPTIONS IN MIXED-CASE

Methods

Methods vary according to when the captions are created and displayed.

Off-Line (Prerecorded)

Off-line captions are created and added after a production has been recorded, but before it is aired or played. Examples of productions that utilize off-line captioning are broadcast TV programs, home videos, and educational media. Most of these captions appear in the pop-on style.

On-Line (Real-Time or Live)

On-line captions are created and added during a live broadcast or event. This method is used to describe the captioning of live political debates, sporting events, classroom lectures, business seminars, and other live productions. Most of these captions appear in the roll-up style.

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Styles

Styles refer to the way captions are presented. The method of the captioning sometimes dictates the style.

Pop-On

Usually one to three lines of pop-on captions appear on-screen all at once, stay there for a few seconds, and then are replaced by another caption. The captions are timed to synchronize with the audio and are placed on the screen in such a way as to help identify the speaker. They should not cover up graphics and other essential visual elements of the picture.

The DCMP requires pop-on captions in upper- and lowercase letters. Characters must be a font similar to Helvetica medium. These captions must have good resolution and fit the requested 32 characters to a line.

Roll-Up

Each line of captions rolls onto and off the screen in a continuous motion. Usually two to four lines of text appear at one time, with the top line of the text disappearing as a new bottom line is added. Roll-up captions are mostly used for on-line captioning, but they are sometimes used for some off-line captioning as well. These are synchronized less precisely than pop-on captions. Although it is possible to move captions (to avoid graphics), more often they remain in one place throughout the program. Double chevrons are often used to indicate a change in speaker, but the speaker is not always identified.

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TEXT

Text is the appearance of the letters on the screen. Text considerations include caption placement, line division, and font.

Caption Placement

Caption placement (vertical and horizontal) refers to the location of captions on the screen.

1. Most captions are placed on the bottom two lines, but placement must not interfere with existing visuals/graphics, such as maps, illustrations, names of countries, job titles, or the names, faces, or mouths of speakers. Should interference occur, captions should be placed at the top of the screen. If placing captions at the top of the screen also interferes with visuals/graphics, place captions elsewhere on the screen where they do not interfere.

2. It is preferred that there are no more than two lines per caption.

3. Captions that have two or more lines must be left-aligned. Example:

INAPPROPRIATE	**APPROPRIATE**
Today's event is the Monster Truck Rally.	Today's event is the Monster Truck Rally.

4. It is essential to place all captions within the safe zone (or safe area) because of the variation in picture size of televisions in homes. This will avoid the possibility of missing characters at right or left screen or missing descenders/ascenders at bottom or top screen.

5. For media with one offscreen narrator and no preexisting graphics, captions should be left-aligned at center screen on the bottom two lines within the safe zone.

6. Single-line captions should be centered on the bottom line.

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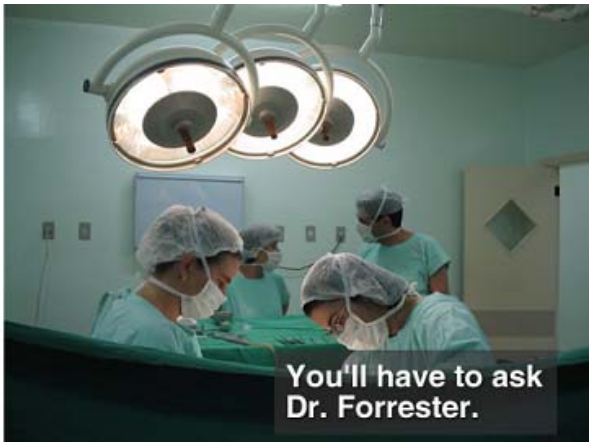
7. Three- or four-line captions are occasionally acceptable if a one- or two-line caption would interfere with preexisting graphics or be confusing with regard to speaker identification.

8. In the case where essential sound effects are used simultaneously with dialogue that is captioned, the captions that identify the sound effects should be placed at the top of the screen.

9. Captioned dialogue must be placed under the speaker as long it does not interfere with graphics or other preexisting features.



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10. When people on-screen speak simultaneously, place the captions underneath the speakers. Do not use other speaker identification techniques, like hyphens. If this is not possible due to the length of the caption or interference with on-screen graphics, caption each speaker at different time codes.

11. If a speaker continuously moves from one on-screen location to another, one placement for captions of that speaker's communication must be used. Speaker identification may be added for clarification. (Confusion occurs when captions jump around the screen.)

12. When a person is thinking or dreaming, place the italicized caption(s) above the speaker's head and add a description in brackets, such as the word "thinking," above the captioned thoughts.

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Line Division

When a sentence is broken into two or more lines of captions, it should be broken at a logical point where speech normally pauses unless it would exceed the 32-characters-per-line requirement.

1. Do not break a modifier from the word it modifies. Example:

INAPPROPRIATE	**APPROPRIATE**
Mark pushed his black truck.	Mark pushed his black truck.

2. Do not break a prepositional phrase. Example:

INAPPROPRIATE	**APPROPRIATE**
Mary scampered under the table.	Mary scampered under the table.

3. Do not break a person's name nor a title from the name with which it is associated. Examples:

INAPPROPRIATE	**APPROPRIATE**
Bob and Susan Smythe are at the movies.	Bob and Susan Smythe are at the movies.
Suzy and Professor Barker are here.	Suzy and Professor Barker are here.

4. Do not break a line after a conjunction. Example:

INAPPROPRIATE	**APPROPRIATE**
In seconds she arrived, and he ordered a drink.	In seconds she arrived, and he ordered a drink.

5. Do not break an auxiliary verb from the word it modifies. Example:

INAPPROPRIATE	**APPROPRIATE**
Mom said I could have gone to the movies.	Mom said I could have gone to the movies.

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6. Never end a sentence and begin a new sentence on the same line unless they are short, related sentences containing one or two words. Example:

INAPPROPRIATE	**APPROPRIATE**
He suspected that his face turned pale. He knew he	He suspected that his face turned pale.
wouldn't be able to speak if spoken to. Running toward	He knew he wouldn't be able to speak if spoken to.
the void, he halted…	Running toward the void, he halted…

Font

A font, or typeface, is a set of characters at a certain size, weight, and style. Consistency throughout the media is extremely important.

1. Characters need to be a font similar to Helvetica medium.

2. The weight must support a 32-character line.

THE WEIGHT OF THIS FONT IS TOO HEAVY

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THE WEIGHT OF THIS FONT IS TOO LIGHT

3. Characters must be sans serif, have a drop or rim shadow, and be proportionally spaced.

4. The font must include upper- and lowercase letters with descenders that drop below the baseline. Pick a font and spacing technique that does not allow overlap with other characters, ascenders, or descenders.

5. The use of a translucent box is preferred so that the text will be clearer, especially on light backgrounds.

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PRESENTATION RATE

The presentation rate is the number of captioned words per minute that are displayed on-screen.

This is a crucial factor in captioning, as the viewer needs time to read the captions, integrate the captions and picture, and internalize and comprehend the message.

Each word is counted when calculating the presentation rate, as opposed to basing the calculation on the number of characters. In addition, speaker identification, sound effects, and other similar elements must be included in the calculations.

For more on presentation rates, read *Appendix 3: Captioning Presentation Rate Research.*

Specifications and Guidelines

1. All lower- to middle-level educational media should be captioned at a presentation rate range not to exceed 120–130 words per minute (wpm). Upper-level educational media may be captioned slightly above the 120–130 wpm range. No caption should remain on-screen less than two seconds. (A words-per-minute generator can be found in the HTML version of the *Captioning Key for Educational Media* at http://captioningkey.org/presentation_rate.html.)

2. Special-interest media for adults require a presentation rate range not to exceed 150–160 wpm. The presentation rate can be increased if heavy editing radically changes the original meaning, content, or language structure. No caption should remain on-screen less than two seconds.

3. Theatrical productions for children should be captioned at a rate range not to exceed 150–160 wpm. No caption should remain on-screen less than two seconds.

4. Theatrical productions for adults should be captioned at a near-verbatim rate, but no caption should remain on-screen less than two seconds or exceed 235 wpm.

Editing

Many educational, special-interest, and theatrical media are not scripted to allow the time necessary for the process of reading captions and often have extremely rapid narration/dialogue. Therefore, minor editing may be necessary.

1. Editing is performed only when a caption exceeds a specified presentation rate limit. Proper editing should maintain both the original meaning, content, essential vocabulary, and meet presentation rate requirements. Borrowing 15 frames before and after the audio occurs is hardly noticeable to the viewer. This "borrowing" technique can be used occasionally when presentation rate is a factor. Examples:

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ORIGINAL NARRATION
"This does violate the principle of treating similar enumerations the same way."

INAPPROPRIATE	**APPROPRIATE**
This does break the principle	This violates the principle
of treating numbers the same.	of treating similar enumerations the same.

ORIGINAL NARRATION
"Will you get out of here!"

INAPPROPRIATE	**APPROPRIATE**
Will you leave now!	Will you get out!

ORIGINAL NARRATION
"Thunderstorms and dangerous lightning can come suddenly out of nowhere."

INAPPROPRIATE	**APPROPRIATE**
Storms and lightning can come suddenly	Thunderstorms and dangerous lightning
out of nowhere.	can come suddenly.

2. If necessary to maintain reading rate, redundant and/or nonessential information can be removed. Examples:

ORIGINAL NARRATION
"It is really, really difficult to find good help."

EDITED
It is really difficult
to find good help.

ORIGINAL NARRATION
Like I said before, this bill on the House floor is an insult to the country.

EDITED
This bill on the House floor
is an insult to the country.

3. The only times when presentation rate is ignored are when any person is quoted, a well-known or famous person is speaking on-screen, poems and other published works are quoted, and/or song lyrics are sung. These must be captioned verbatim.

4. Do not caption the same, or nearly the same, information that is already shown on-screen.

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LANGUAGE MECHANICS

Language mechanics incorporate the proper use of spelling, grammar, punctuation, capitalization, and other factors deemed necessary for high-quality captioned media. Rules included in these guidelines are primarily those which are unique to captioning and speech-to-text.

Spelling and Capitalization

1. To check spelling and capitalization, the DCMP uses Merriam-Webster Online as a primary source. The *Gregg Reference Manual* and *The Chicago Manual of Style* are secondary sources. Specialized and reputable resources may be used as necessary. (See *Appendix 2: Captioning Research Record*.)

2. Do not use British spellings or punctuation.

3. Do not emphasize a word using all capital letters except to indicate screaming.

4. Be consistent in the spelling of words throughout the media. This includes vocabulary that can be spelled either as one or two words or in hyphenated form.

5. Capitalize proper nouns for speaker identification. All other speaker identification should be lowercased unless this identification is being used as a proper noun. Examples:

INAPPROPRIATE	**APPROPRIATE**
(bobby)	(Bobby)
(Male Narrator)	(male narrator)

6. Lowercase sound effects, including both description and onomatopoeia, except when a proper name is part of the description. Examples:

INAPPROPRIATE	**APPROPRIATE**
[Machine Gun Firing] Rat-a-tat-tat	[machine gun firing] rat-a-tat-tat
[Plinky Squealing]	[Plinky squealing]

Research

When performing DCMP captioning work, captioning vendors are expected to extensively research spelling, capitalization, and grammar. All research work should be recorded on the document found in *Appendix 2: Captioning Research Record*.

Punctuation

For other language mechanic features, the DCMP uses *The Gregg Reference Manual* as a primary source; *The Chicago Manual of Style* and others are used as secondary sources. If the media item is based on a book, the language mechanics used in the book should be followed.

As a general rule, written English language depends largely on word order to make the relationships between words clear. When word order alone is not sufficient to establish these relationships, the DCMP typically resorts to punctuation.

It is not easy to determine the appropriate punctuation for written or spoken language. Written language can sometimes be convoluted, and spoken language sometimes appears improperly constructed when put into written form, which can make it even more difficult to punctuate.

Acceptable and understandable speech may consist of broken sentences, incomplete sentences, run-on sentences, and other constructions normally considered not acceptable in written language. Transcription of these speech constructions into text sometimes requires use of punctuation that is unique to the captioning process.

Many rules here are from *The Gregg Reference Manual*, but it is essential that each vendor familiarizes itself with the style manual as a whole.

Hyphens and Dashes

1. Nonessential information that needs special emphasis should be conveyed by double hyphens or a single long dash.

2. When a speaker is interrupted and another speaker finishes the sentence, the interruption should be conveyed by double hyphens or a single long dash.

3. When a speaker stutters, caption what is said.

INAPPROPRIATE	**APPROPRIATE**
book	b-b-b-ook

4. When captioning spelling (including fingerspelling), separate capital letters with hyphens. Example:

   A-N-T-I-O-N-E-T-T-E

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Ellipses

1. Use an ellipsis when there is a significant pause within a caption.

2. Do not use an ellipsis to indicate that the sentence continues into the next caption.

3. Use an ellipsis to lead into or out of audio relating to an on-screen graphic unless there is a complete sentence in the graphic that is more appropriately introduced by a colon.

Quotation Marks

1. Use quotation marks for on-screen readings from a poem, book, play, journal, or letter. However, use quotation marks and italics for offscreen readings or voice-overs.

2. Beginning quotation marks should be used for each caption of quoted material except for the last caption. The last caption should have only the ending quotation marks. Example:

Reading from a journal…

INAPPROPRIATE	**APPROPRIATE**
"Mother knelt down and began thoughtfully fitting"	"Mother knelt down and began thoughtfully fitting
"the ragged edges of paper together."	"the ragged edges of paper together.
"The process was watched with spellbound interest."	The process was watched with spellbound interest."

Spacing

1. Spaces should not be inserted before ending punctuation, after opening and before closing parentheses and brackets, before and after double hyphens and dashes, or before/between/after the periods of an ellipsis. Examples:

INAPPROPRIATE	**APPROPRIATE**
(narrator)	(narrator)
I am happy . . . thank you.	I am happy…thank you.

2. A space should be inserted after the beginning music icon (♪) and before the ending music icon(s). Example:

   ♪ There's a bad moon rising ♪

Italics

Italics should be used to indicate the following:

1. A voice-over reading of a poem, book, play, journal, letter, etc. (This is also quoted material, so quotation marks are also needed.)
2. When a person is dreaming, thinking, or reminiscing.
3. When there is background audio that is essential to the plot, such as a PA system or TV.
4. The first time a new word is being defined, but do not italicize the word thereafter.
5. Offscreen dialogue, narrator (see Exception 2 below), sound effects, or music (this includes background music).
6. The offscreen narrator when there are multiple speakers on-screen or offscreen.
7. Speaker identification when the dialogue is in italics and speaker identification is necessary.

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8. Foreign words and phrases, unless they are in an English dictionary.

9. When a particular word is heavily emphasized in speech. Example:

   You *must* go!

Exceptions to the use of italics include:

1. When an entire caption is already in italicized format, use Roman type to set off a word that would normally be italicized.

2. If there is only one person speaking and no other speakers, whether on- or offscreen, use Roman type with no italics.

3. Do not italicize while translating for a person on-screen. Example:

INAPPROPRIATE	**APPROPRIATE**
(female interpreter) *I enjoyed New Mexico.*	(female interpreter) I enjoyed New Mexico.

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SPECIAL CONSIDERATIONS

Special considerations include (but are not limited to) sound effects, speaker identification, synchronization, music, foreign language/dialect/slang, and numbers.

Sound Effects

Sound effects necessary to the understanding and/or enjoyment of the media should be captioned.

1. A description of sound effects, in brackets, should include the source of the sound.

2. Description can be eliminated if the source of the sound can clearly be seen on-screen.

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3. If the presentation rate permits, also include onomatopoeia. A study by Gallaudet University showed that "A combination of description and onomatopoeia was the preference of more consumers (56%) than was description alone (31%) or onomatopoeia alone (13%)."

4. Offscreen sound effects should be italicized. This includes background music.

5. Place the description of the sound effect as close as possible to the sound source.

6. Both sound effects and onomatopoeias must be lowercased.

7. If description is used for offscreen sound effects, it is not necessary to repeat the source of the sound if it is making the same sound a few captions later. Example:

FIRST CAPTION	**LATER CAPTION**
[pig squealing]	*[squealing continues]*

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8. The description should be on the first line of the sound effect caption, separate from the onomatopoeia. Examples:

INAPPROPRIATE	**APPROPRIATE**
[machine gun firing] rat-a-tat-tat	[machine gun firing] rat-a-tat-tat

9. Use punctuation to indicate speed or pace of sound. Examples:

SLOW	**RAPID**
[clock chiming] dong…dong…dong	[gun firing] bang, bang, bang

10. A sound represented by a repeated word is not hyphenated. A sound represented by two different words is hyphenated. Examples:

REPEATED WORDS	**TWO DIFFERENT WORDS**
[doorbell ringing] ding, ding	[doorbell ringing] ding-dong

11. When describing a sustained sound, use the present participle form of the verb. When describing an abrupt sound, use the third person verb form. Examples:

SUSTAINED SOUND	**ABRUPT SOUND**
[dog barking] woof, woof…woof	[dog barks] woof!
[papers crinkling]	[papers crinkle]

12. Caption background sound effects only when they're essential to the plot.

13. Caption the audience response only when it is essential to a better understanding of on-screen or offscreen action. Example:

INAPPROPRIATE	**APPROPRIATE**
(John) Bring out the band!	(John) Bring out the band! [audience cheering]

14. When possible, use specific rather than vague, general terms to describe sounds. Examples:

VAGUE/GENERAL	**SPECIFIC**
[horse running]	[horse galloping]
[bird singing]	[robin singing]

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15. Never use the past tense when describing sounds. Captions should be synchronized with the sound and are therefore in the present tense.

Intonation, Play on Words, and No Audio

1. If the speaker is not visible on-screen, or visual clues that denote the emotional state are not shown, indicate the speaker's emotion. Example:

INAPPROPRIATE	**APPROPRIATE**
Well, whatever!	[angrily] Well, whatever!

2. When a person is whispering, captions as:

   [whispering]
   Okay, you go first.

3. When feasible, describe puns. Example:

   Why do they call her "Ouisy"?
   ["Wheezy"]

4. When people are seen talking, but there is no audio, caption as [no audio] or [silence].

Speaker Identification

1. When possible, use caption placement to identify an on-screen speaker by placing the caption under the speaker.

2. If offscreen speakers are speaking simultaneously, appropriate speaker identification must be added.

3. When a speaker cannot be identified by placement and his/her name is known, the speaker's name should be in parentheses. Also, the speaker's name needs to be on a line of its own, separate from the captions. Example:

INAPPROPRIATE	**APPROPRIATE**
[Jack] I don't see how blasting would work on this building.	(Jack) I don't see how blasting would work on this building.

4. When a speaker cannot be identified by placement and his/her name is unknown, identify the speaker using the same information a hearing viewer has (e.g., "female #1," "male narrator").

5. If a speaker is offscreen and his/her offscreen position is known, place the captions to the far right or left, as close as possible on-screen to the offscreen speaker's assumed position.

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6. Do not identify the speaker by name until the speaker is introduced in the audio or by an on-screen graphic.

7. If there is only one narrator, identify as (male narrator) or (female narrator) at the beginning of the media. It is not necessary to identify gender for each caption thereafter.

8. When an actor is portraying another person or character, identify the actor as the person being portrayed. Example:

   (as George Washington)
   If the freedom of speech
   is taken away,

   then dumb and silent
   we may be led,

   like sheep
   to the slaughter.

Synchronization

1. Keep the captions as closely synchronized to the original audio as possible.

2. Borrowing 15 frames before and after the audio occurs is hardly noticeable to the viewer. This "borrowing" technique can be used occasionally when presentation rate is a factor.

3. Do not simultaneously caption different speakers if they are not speaking at the same time.

Music

1. When captioning music, use descriptions that indicate the mood. Be as objective as possible. Avoid subjective words, such as "delightful," "beautiful," or "melodic."

2. If music contains lyrics, caption the lyrics verbatim. The lyrics should be introduced with the name of the vocalist/vocal group, the title (in brackets) if known/significant, and if the presentation rate permits.

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3. Caption lyrics with music icons (♪). Use one music icon at the beginning and end of each caption within a song, but use two music icons at the end of the last line of a song.

4. A description (in brackets) should be used for instrumental/background music or when verbatim captioning would exceed the presentation rate. If known, the description should include the performer/composer and the title. Examples:

   [Louis Armstrong plays
   "Hello Dolly"]

   [lyrical flute solo]

   [pianist playing
   the national anthem]

5. Beware of misplaced modifiers in descriptions. Example:

   INAPPROPRIATE
   [frantic piano playing]

   APPROPRIATE
   [frantic piano music]

6. For background music that is not important to the content of the program, place a music icon in the upper right corner of the screen.

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Foreign Language, Dialect, Slang, and Phonetics

1. If possible, caption the actual foreign words. If it is not possible to caption the words, use a description (e.g., [speaking French]). Never translate into English.

2. If possible, use accent marks, diacritical marks, and other indicators.

3. Indicate regional accent at the beginning of the first caption. Example:

INAPPROPRIATE	**APPROPRIATE**
If y'all want me to.	[Southern accent] If y'all want me to.

4. Keep the flavor of dialect. Example:

INAPPROPRIATE	**APPROPRIATE**
You are sure not from around here.	You sho' ain't from 'round here.

5. Keep the flavor of the speaker's language when necessary to portray a character's personality. This includes captioning profanity and slang. Examples:

INAPPROPRIATE	**APPROPRIATE**
I'm not going anywhere.	I ain't going nowhere.
[cursing]	Damn!

6. When a word is spoken phonetically, caption it the way it is commonly written. Examples:

ORIGINAL NARRATION	**CAPTIONED AS**
"N-double-A-C-P"	NAACP
"www dot D-C-M-P dot org"	www.dcmp.org
"eight or nine hundred"	800 or 900
"a thousand"	a thousand
"one thousand"	1000

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Numbers

Spelling Out

1. Unless otherwise specified below, spell out all numbers from one to ten, but use numerals for all numbers over ten. Examples:

INAPPROPRIATE	APPROPRIATE
The fifty-four DVDs need to be shelved.	The 54 DVDs need to be shelved.
He's at the thirty, the twenty, and scores!	He's at the 30, the 20, and scores!

2. Spell out any number that begins a sentence as well as any related numbers. Example:

   Two hundred guests
   and eleven guides entered.

3. Spell out casual, nonemphatic numbers. Example:

   He gave me
   hundreds of reasons.

4. Numerals with four digits can either have a comma or not. Be consistent throughout the media production. For numerals having over five digits, a comma is necessary. Example:

INAPPROPRIATE	APPROPRIATE
50000	50,000

5. Use numerals in a listing of numbers if one or more is above ten and these occur in one caption or one sentence. Example:

INAPPROPRIATE	APPROPRIATE
Steven has 21 books, 11 oranges, and three cats.	Steven has 21 books, 11 oranges, and 3 cats.

6. Use numerals when referring to technical and athletic terms. Example:

   He scored 3 goals
   in today's game!

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7. When indicating sequence, capitalize the noun and use numerals. Exceptions are the indication of line, note, page, paragraph, size, step, or verse. Examples:

Building 2	page 31
Channel 5	size 12
Chapter III	step 3
Room 438	paragraph 2

Dates

1. Use the numeral plus the lowercase “th,” “st,” or “nd” when a day of the month is mentioned by itself (no month is referred to). Example:

CAPTIONED AS	**ORIGINAL NARRATION**
Bob went fishing on the 9th.	“ninth”

2. When the day precedes the month, use the numeral plus the lowercase “th,” “st,” or “nd” if the ending is spoken. Example:

CAPTIONED AS	**ORIGINAL NARRATION**
My birthday is the 17th of June.	“seventeenth”

3. Use the numeral alone when the day follows the month. Example:

CAPTIONED AS	**ORIGINAL NARRATION**
I will meet you on May 9.	“nine” or “ninth”

4. When the month, day, and year are spoken, use the numeral alone for the day, even if an ending (“th,” “st,” or “nd”) is spoken. Example:

CAPTIONED AS	**ORIGINAL NARRATION**
Paul will marry on July 6, 1996.	“six” or “sixth”

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Time

1. Indicate time of day with numerals only. Examples:

   I awoke at 5:17.

   If you wish to attend,
   you must arrive by 6:25 p.m.

   We were expected to report
   no later than 1400 hours.

   I awoke at 4 o'clock.

2. Always use numerals when the abbreviation "a.m." or "p.m." is present. Double zeros are not necessary to indicate minutes of the hour when a whole number is used with a.m. or p.m. Examples:

   She leaves at 3:20 p.m.
   for the airport.

   Our hours are
   from 9 a.m. to 5 p.m.

   We're leaving
   at 6 in the morning.

Periods of Time

1. A decade should be captioned as "the 1980s" (not "the 1980's") and "the '50s" (not "the 50's").

2. If a decade or century is in noun form, do not use hyphens. Example:

   This vase is
   from the 17th century.

3. If a period of time is used as an adjective, use a hyphen. Example:

   This 19th-century painting
   was done by Van Gogh.

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Fractions

1. Either spell out or use numerals for fractions, keeping this rule consistent throughout the media. If using numerals, insert a space between a whole number and its fraction. Example:

NUMERAL USED	FRACTION SPELLED OUT
Do you plan to eat 1 ½ pizzas?	Do you plan to eat one and one-half pizzas?

2. Do not mix numerals and spelled-out words within the same sentence. Example:

INAPPROPRIATE	APPROPRIATE
Malika is 13 and a half years old.	Malika is 13 ½ years old.

3. If a fraction is used with "million," "billion," "trillion," etc., spell out the fraction. Example:

   The population was
   over one-half million.

4. Fractions expressed in figures should not be followed by endings, such as "sts," "rds," "nds," or "ths." Example:

INAPPROPRIATE	APPROPRIATE
3/10ths	3/10

Percents

1. Use numerals and the percent sign to indicate all percentages except at the beginning of a sentence. Examples:

MIDDLE OF SENTENCE	BEGINNING OF SENTENCE
Only 6% of the votes were counted.	Fifty-one percent of the people voted "yes."

Dollar Amounts

1. Use the numeral plus "cents" or "¢" for amounts under one dollar. Examples:

   I need 15 cents.

   I owe you 32¢.

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2. Use the dollar sign plus the numeral for dollar amounts under one million. For whole-dollar amounts of one million and greater, spell out “million,” “billion,” etc. Examples:

   John brought only $11.

   Bob brought $6.12.

   The budget of $13,000
   will be sufficient.

   Taxes will be reduced
   by a total of $13 million.

   He owes $13,656,000.

3. Use the word “dollar” only once for a range up to ten. Example:

   I hope to find
   three or four dollars.

4. Use the dollar sign and numerals when captioning a range of currency over ten dollars. Example:

   Alice expected a raise
   of $6,000 to $7,000.

Measurements

1. Spell out units of measurement, such as “inches,” “feet,” “yards,” “miles,” “ounces,” “pounds,” and “tablespoons.” However, if spoken in shortened form, symbols should be used. For example, if the original narration is “I’m five eight,” it should be captioned as:

   I’m 5'8".

2. For whole numbers, use numerals. For example, caption “3 cups of sugar” instead of “three cups of sugar.”

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BECOMING AN APPROVED CAPTIONING SERVICE VENDOR

Anyone interested in acting as a DCMP captioning service vendor should contact the DCMP or the U.S. Department of Education (ED). One of the NAD cooperative agreement tasks is to assist the ED in the evaluation of media captioning.

If approved vendors use the ED's name in their advertisements, the language must be as follows:

"(Name of Vendor) is an approved captioning service vendor for the Described and Captioned Media Program, Office of Special Education Programs, U.S. Department of Education. This does not infer an endorsement by the Department of Education."

The DCMP has numerous captioning and accessibility information materials regarding the DCMP, captioning, and other related topics. Contact us at:

Described and Captioned Media Program
National Association of the Deaf
1447 E. Main St.
Spartanburg, SC 29307
(800) 237-6213 V
(800) 237-6819 TTY
(800) 538-5636 FAX
info@dcmp.org E-MAIL
www.dcmp.org WEB

The ED also welcomes questions and comments and may be contacted at: 1-800-USA-LEARN (V).

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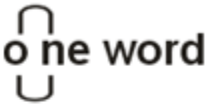
APPENDICES

Appendix 1: Captioning Proofreading Marks

Captioning Proofreading Marks

capitalize		
close up		
delete		
insert		
italicize		
lowercase		
change to roman type		
space		
transpose		
make two lines	2L	
create two time codes	2TC	
exceeds safety zone	E	
line break	LB	
indicates where to create line break	/	The conditions / during the search
indicates changes need to be made	←	Since 1870, ←

Appendix 2: Captioning Research Record

(sample) Captioning Research Record (sample)

Production title: *The History of Battleships* _____

Person completing this form: Rosie Logman _____

CAPTION NO.	ITEM RESEARCHED	COMMENT/ NATURE OF RESEARCH	CORRECTION	SOURCE	VOLUME/PAGE NO.; WWW ADDRESS; MULTIMEDIA TYPE
01:23:15	USS Honolulu	periods	ok	www	http://www.csp.navy.mil/css3/718.htm
02:46:01	Joe DeMaggio	sp.	DiMaggio	www	http://www.joedimaggio.com/
06:11:29	war ships	1 or 2 words	warships	MWO	
09:25:19	best defended base	hyphen	best-defended base	GR	¶ 824b
13:15:10	Krampe Ship Building Co.	sp. & cap.	Cramp Shipbuilding Co.	www	http://www.globalsecurity.org
21:33:16	Yomahto	sp.	Yamato	EB	v.6. p. 449
25:12:23	two week's leave	possessive	weeks'	GR	¶ 627
32:58:23	kerrdumph	sp.	kerdumf	NPD	
35:55:05	Western Hemisphere	cap.	ok	MWO	
38:03:17	bluetongue	1 or 2 words	ok	MWO	
42:45:29	clevis	sp.	ok	MWO	
43:30:15	port Chicago	sp.	Port Chicago	www	www.history.navy.mil
51:05:00	crash of 1929	cap.	Crash of 1929	EB	CD-ROM

Under "Source," use the following abbreviations for these two standard references:

MWO—Merriam-Webster Online
GR—Gregg Reference Manual

Provide abbreviations for other references you use (see examples below):

WBD—Webster's Biographical Dictionary
NPD—The New Partridge Dictionary of Slang and Unconventional English
CMS—Chicago Manual of Style
AHD—American Heritage Dictionary
EB—Encyclopedia Britannica

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Captioning Research Record

Production title: _____

Person completing this form: _____

CAPTION NO.	ITEM RESEARCHED	COMMENT/ NATURE OF RESEARCH	CORRECTION	SOURCE	VOLUME/PAGE NO.; WWW ADDRESS; MULTIMEDIA TYPE

Under "Source," use the following abbreviations for these two standard references:

MWO—Merriam-Webster Online
GR—Gregg Reference Manual

Provide abbreviations for other references you use (see examples below):

WBD—Webster's Biographical Dictionary
NPD—The New Partridge Dictionary of Slang and Unconventional English
CMS—Chicago Manual of Style
AHD—American Heritage Dictionary
EB—Encyclopedia Britannica

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Appendix 3: Captioning Presentation Rate Research

Notes on Research Concerning Captioning Presentation Rate

Introduction

Dr. Carl J. Jensema stated in the introduction to the final report for the federally funded research entitled "Caption Speed and Viewer Comprehension of Television Programs" (1999):

> At first glance, the idea of verbatim captioning is very appealing. Allowing a deaf or hard of hearing person to read every word that is spoken on television means that the person has full access. However, it may be possible for spoken television dialogue to go so fast that most people cannot read its verbatim captioning. Creating captions which are delivered too fast to read is counter-productive to the entire purpose of captioning.
>
> Many captioning policies, including the move towards verbatim captioning, are not based on research. We need research to determine how fast captions should appear on the screen, what presentation rates people prefer and are capable of reading. We need to know how these preferences and capabilities vary with different people and correlate this information with different kinds of captioned programming people watch.

These critically important issues have only partially been addressed. But there is an existing body of research and study that supports the DCMP policy and philosophy. Much of this documentation can be reviewed in its entirety at the DCMP Web site: www.dcmp.org. Notes on these studies follow.

Children

1. In 1980, Edgar Shroyer and Jack Birch reported on the results of their study of 185 randomly selected hard of hearing students from residential schools. In "Captions and Reading Rates of Hearing-Impaired Students," they indicated that normal extempore speech is measured at 159 words per minute (wpm) and that speech and language on television and films approximated this rate. They found that if speech on television/films was synchronized in content and speed with captions, approximately 84% of hard of hearing students were not able to read it. (That is, 84% of the students in the study possessed reading rates below the 159 wpm of extempore speech.) They noted that other research indicated that the linguistic level of captions would further significantly compound students' reading rate difficulties. They also found that the mean wpm reading rate of primary students in their study was 123.7.

2. Martha J. Meyer and Yung-bin Benjamin Lee published "Closed-Captioned Prompt Rates: Their Influence on Reading Outcomes" in 1995. They reported placing 140 reading-deficient students (from fourth, fifth, and sixth grades) in an experimental study which randomly assigned each to either (a) an average-paced closed-captioned video, (b) a slow-paced closed-captioned video, or (c) printed text with no video. Results indicated significantly more learning occurs for those students using captioned video as compared to those utilizing only traditional print materials. Additionally, students assigned to the slow-paced prompt rate retained significantly more information than those viewing the average-paced captioning (causing them to conclude that prompt rates should be designed so that children with various reading speeds have enough time to read and process the information).

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3. In 1998 Margaret S. Jelinek Lewis and Dorothy W. Jackson selected elementary school deaf students from a Midwestern residential school as participants in their study entitled "Television Literacy: Comprehension of Program Content Using Closed-Captions for the Deaf." They found that the time constraint of captions further compounded the literacy problem for deaf readers as captions move quickly off the screen. Deaf readers also exhibited a lack of fluent word reading, which adversely affects comprehension; word-reading fluency depended on the ability to recognize (effortlessly and automatically) letters, spelling patterns, and whole words. In addition, students who viewed captions at a slower pace of 78 wpm retained significantly more information than students who viewed captions at an average rate of 116 wpm.

4. Carl Jensema and Ramalinga Sarma Danturthi reported in "Time Spent Viewing Captions on Television Programs" (1999) that they had studied the eye movements of 23 deaf subjects, ages 14 to 61, while they watched captioned television programs. They discovered that the viewers in the study spent about 84% of their television viewing time looking at the program's captions, at the video picture 14% of the time, and off the video 2% of the time. ("Off video" was due to eye blinks and normal eye movement.) Their conclusion was that much exposure to print was "bound to influence reading skills." (Note: The DCMP educational and training materials are selected in large part because of their pictorial component, and thus it is imperative that the presentation rate of captions not prohibit opportunity to learn from this component.)

5. In 2000 Carl Jensema reported ("A Study of the Eye Movement Strategies Used in Viewing Captioned Television") that "fascinating" results indicated that deaf children might be totally ignoring captions on television programs until they are about seven years old and then start "utilizing captions bit by bit between the ages of seven and nine years. In other words, they may be ignoring captions until they have the reading skills to understand them, rather than utilizing captions to learn to read." Research was continued (at the Western Pennsylvania School for the Deaf) and reported on in the 2003 "The Relation Between Eye Movement and Reading Captions and Print by School-Age Deaf Children." Conclusions included affirmations that captioned television programs are complex reading material, requiring the reader to obtain information from both a moving picture and words flashed on the screen. Deaf children are supposed to "split his or her attention between the picture and the captions according to some personal formula that maximizes the information gained."

Adults

1. In 1994 a project report from Gallaudet University Technology Assistance Program entitled "Caption Features for Indicating Non-Speech Information: Research Toward Standardization" had the purpose to improve captioning of "non-speech information" (NSI). NSI included identification of speaker, sound effects, music, manner of speaking, audience reaction, and indication of a title (e.g., book, film, newspaper, or play). A total of 189 deaf and hard of hearing consumers in the study confirmed the importance of consistent presentation of this information. One implication that pertains to presentation rate is that while NSI is crucial in conveying information about plot, humor, mood, or meaning of a spoken passage, it does add more written language for the viewer to process.

2. In 1996, Frank and Sondra Thorn ("Television Captions for Hearing-Impaired People: A Study of Key Factors that Affect Reading Performance") examined how caption presentation rate would affect the reading performance of good readers, selecting thirty-two college graduates with

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normal hearing and vision for their study (half of whom were English language learners). They concluded that TV closed-captions for hard of hearing people may not serve many of the intended users because the captions are too small and too quickly presented to be fully comprehended. They recommended that a second captioning style be simultaneously presented that has a slower rate of presentation and larger text.

3. In 1998 Carl Jensema reported in his study of "Viewer Reaction to Different Reading Speeds" that 578 deaf, hard of hearing, and hearing persons responded that the "OK speed," defined as the rate at which "caption speed is comfortable to me," was found to be about 145 wpm. This rate was very close to the mean rate of 141 wpm actually spoken in television programming (as determined by Jensema in a 1995 study). Most viewers apparently had little trouble with captions until the rate was at least 170 wpm. Infrequent viewers (hearing people) wanted slightly slower captions, while frequent viewers were comfortable with faster captions. Age and sex were not related to caption speed preference; educational level was also of no significance except that those who had attended graduate school indicated a preference for slightly faster captions.

4. In 1999 Dr. Jensema reported on research related to "Caption Speed and Viewer Comprehension of Television Programs." He found that caption viewers (1,102 persons in his study) are likely to be able to absorb facts and draw conclusions from captions that are presented as fast as 220 wpm for short periods of time, but he commented, "Video segments in this study were 30 seconds long, far shorter than a normal television program and too short for fatigue to be a factor." With the exception of junior high students, such demographic variables as age, sex, hearing loss, and educational level did not appear to have a meaningful relationship to comprehension.

5. In the 2003 survey results entitled "The State of Closed Captioning Services in the United States," 36% of 203 respondents (deaf, hard of hearing, and ESL) reported that captions moved too fast. The study was conducted by the Annenburg Public Policy Center of the University of Pennsylvania and sponsored by the National Captioning Institute Foundation.

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