



TriCaster® Student Curriculum

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Live television is a daily reality; significant news and events are broadcast or webcast as they happen on network, cable and Internet outlets. NewTek TriCaster® portable live production system brings the power and immediacy of live television to you and your students. Now, you can broadcast school events live through television and the Internet.

Everything from live morning newscasts to sporting events, school assemblies, plays, concerts and graduation ceremonies can be shared with family and friends through school webcasts and video. As an educator you can add deep, multi-layered elements to traditional learning by integrating portable live video production components to classroom curriculum.

Students learn valuable technological and multi-disciplinary skills, while increasing school morale and contributing to the overall school presence through the delivery of school events and activities via television or the Internet.

STUDENT BENEFITS

- Student engagement
- Knowledge retention
- Student motivation
- Team development and collaboration

LEARNING STYLES

- Visual learners
- Kinesthetic learners
- Special needs learners

EDUCATOR BENEFITS

- Easy-to-use technology for both teachers and students
- Adheres to national technological standards
- Can be integrated into a wide variety of curriculum

1. Lights, CAMERA, Action

Camera Shots and Angles (five to six class periods)

In this lesson, students will learn the different kinds of camera angles used in broadcast journalism, and how to use these angles effectively. Students will also learn the terms and definitions of each shot.



Camera Shots, Angles and Terms:

Long Shot

A long shot, also referred to as an establishing shot, is used to show a large view of something. Often used to show location, buildings or a large group of people, long shots are what to use to establish a setting.

Medium Shot

A medium shot is used to focus the audience's attention by cutting out unwanted people, objects or background and focusing on the subject.

Two-Shot

A two-shot is used when there are co-anchors on the news desk and the camera zooms back wide enough to include each anchor in the frame.

Close-Up Shot

A close-up shot is used to isolate what is important in the shot or enlarge something in order to focus the audience's attention.

Extreme Close-Up Shot

An extreme-close up shot is used to further isolate or enlarge an object in order to focus the audience's attention.

Over-the-Shoulder Shot

The over-the-shoulder shot is used to show a close up of the news anchor on one side of the frame and a text or video window on the other side, over the anchor's shoulder.

Subjective Views

A subjective view is used to create the effect that the anchor is speaking directly with the audience by having the anchor speak into the camera.

Objective View

An objective view is when the camera is not addressed directly by those in the shot in order to make the audience feel like an observer and not a participant. This shot is often used during an interview.



Eye-Level View

An eye level view is when the camera is set at eye level with the anchor in the shot.

High-Angle View

A high-angle view involves the camera being placed higher than eye-level, looking down at the talent.

Low-Angle View

This shot involves the camera looking up towards the talent, giving the audience the impression that the talent is in a position of power.

1. Lights, CAMERA, Action

Rule of Thirds

The Rule of Thirds states that an image can be divided into nine equal parts by dividing it with two equally-spaced horizontal lines and two equally-spaced vertical lines. The four points formed by the intersections of these lines are where the human eye directs its attention to. To create video with good composition, place the most important part of the picture at one of the four points.

Headroom

Headroom refers to the space above the talent's head. If there is too much or too little headroom, the talent will look unbalanced, cramped or both.

Lead Room

Lead room allows space for someone or something to move with in the shot.

Background

The backdrop behind the talent can either enhance or detract from the shot. It is important to take the background into consideration as the shot is framed to make sure that no object in the background looks as though it is intruding upon the image in focus. For example, a pole or a sign in the background could look as though it is protruding from the head of the talent if the shot is not framed properly.

Foreground

The same principle for background can be used for foreground. Always be aware of what is in front of the talent.

Balance

While you want to provide lead room in the frame in the direction that someone is facing, if you provide too much room, the shot will lose balance. If the subject is facing right, you should place them just to the left of center.

Pan

A pan is when you rotate the camera on the horizontally.

Zoom

To zoom is to change the lens to a narrow-angle of view (zoom-in, or close up), or to a wide-angle of view (zoom-out).

Slow Zoom

While the subject is speaking, very slowly zooming in adds impact to what is being said. This is a great technique to use when an anchor is closing a report.

Tilt

Tilt is when you rotate the camera up or down.

Truck

Truck is when you move the camera laterally using a camera dolly or pedestal.

Dolly

A dolly provides support for the camera, which allows the camera to move in all directions, such as a tripod on wheels. To move the camera toward something is called "dolly in," moving the camera away from something is called "dolly out."

Objectives/Knowledge Retained

Students will learn the names and definitions of camera angles. Students will also learn how to use these camera angles effectively in relation to shooting a newscast/story.

Materials/Resources Needed:

- One to three video cameras
- (for switching purposes)
- TriCaster®
- Lesson One Handout – Basic Camera Composition (Pages 24 - 25)

1. Lights, CAMERA, Action

Anticipatory Set: (Day One)

Write on the chalk/white board “Start with a bang.” Ask students if they are familiar with the phrase “Start with a bang.” Explain that compelling stories begin with conflict or tension. Ask students what other aspects can impact the story. Ask students how they think camera angles will impact a story.

Pass out Lesson One Handout. Explain to students that different shots and angles can determine the “feel” of a story. For example, using a low-angle shot can make a person appear powerful while a high-angle shot can establish a feeling of less-importance. Explain to students that they must always take into consideration how they are shooting the talent or scene.

Input: (Day Two)

Record several news stories for students to watch that use different shots and angles. Ask the students how the shots and angles establish the feel of the story. Ask students if they think the story would have a different feel if the shots and angles were done differently.

Model: (Day Two)

Hook up a camera to TriCaster® and ask for volunteers. Give the definition of each shot, demonstrating how to achieve the shot. Also give examples of dolly, pan, tilt and zoom and how each could be used in a news story. If more than one camera is available, introduce TriCaster® camera switching abilities. Introduce and demonstrate how the ability to switch cameras (see TriCaster® User Guide) allows you to change camera angles quickly and effectively, adding depth to your production.

Check for Understanding: (Day Three)

Informally throw out different shots from the handout to see if students know the definition. Show part of a news broadcast featuring several on-location stories. Ask the students what shot is being used and how it affects the story. This may over-lap into day four, depending on how in-depth you want to get.

Guided Practice: (Day Three)

Ask the students to divide into groups (this will be the same group that will be doing the activity) and have them set up each shot. If there are only one or two cameras available, do the guided practice together. Tell the students that you should be able to tell what shot they are doing.

Activity: (Days Three and Four)

Students will split up in groups of three to five and record (two minutes or less) a short interview using four different shots that you provide. The groups are to use the shots in the order in which they are provided. The interviewer and interviewee will be two students from the group. The interview will be about what their favorite color is and why.

Ask students for examples of a broadcast where camera angles played a part in the story.

Closure: (Day Five and Six)

After the activity is completed, have all the groups present their unedited video to the class and point out which shots were used. Ask the class what they would have done differently if they had been given a choice of shots to use. Ask the class how the shots used impacted the feel of the story.

1. Lights, CAMERA, Action

Independent Practice/Enrichment:

Have the students individually write which shots they would have liked to use in the interview and what impact those shots would have made.

Integration into Live Broadcast

Students operating the camera will always be aware of the shots and camera angles used when shooting a broadcast or news story.

National Educational Standards Met:

- Language Arts, Standard Four: Adjust their use of spoken, written and visual language to communicate effectively with a variety of audiences and for different purposes.
- Language Arts, Standard Seven: Conducts research on issues and interests by generating ideas and questions, and by posing problems. Gather, evaluate and synthesize data from a variety of sources to communicate discoveries in ways that suit purpose and audience.
- Language Arts, Standard Eight: Use a variety of technological and information resources to gather and synthesize information and to create and communicate knowledge.
- Technology, Standard Five: Uses technology to locate, evaluate and collect information from a variety of sources.
- Technology, Standard Six: Uses technology resources for solving problems and making informed decisions; employs technology in the development of strategies for solving problems in the real world.

2. Lighting a Set

Lighting a Set (Three Class Periods)

In this lesson, students will learn how to effectively light a set, as well as use natural light and single camera lighting. Students will also learn the different types of lighting, including three-point lighting, which will be utilized on the news set.

Key Light

A key light is the main light in front of and to one side of the talent.



Fill Light

A fill light is a less bright light off to the opposite side of the key light.



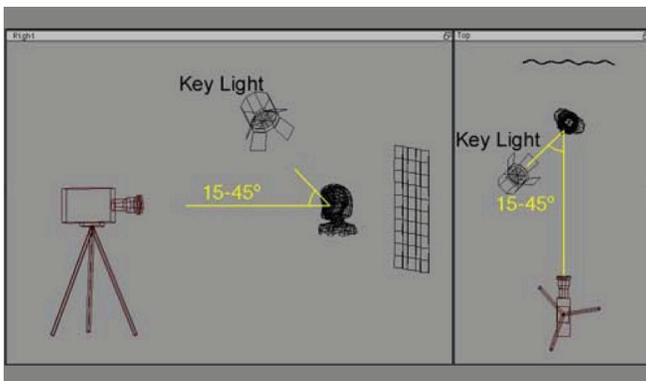
Hair Light/Rim Light

A hair light or rim light is a small light pointing down and behind the talent to give highlights off of the hair and shoulders.



Three-point Lighting

Three-point lighting is a combination of key, fill and hair lights on the talent. The fill light should be about half the intensity of the key light, to emphasize facial dimension.



Objectives/Knowledge Retained

Students will learn how to set-up lighting and use different lighting techniques while on the news set and on location shooting. Students will also learn the different kinds of “moods” lighting can create.

Materials/Resources Needed:

- One to three cameras
- Key light, fill light and back light
- Different objects for light diffusion (a stocking, diffusion paper, clear paper)
- Lesson Two Handout – Lighting a Set (Page 26)

2. Lighting a Set

Anticipatory Set: (Day One)

Pass out Lesson Two Handout. Show a clip from the evening news of an anchor in a news room, show a clip using only the camera light and, if possible, show a clip using natural light (an outdoor scene). Ask students if they notice a difference between the lighting.

Input: (Take-Home Assignment, Day One)

Students will watch any news broadcast they choose and list the forms of lighting used (to the best of their knowledge). Students will write how the lighting affects the look and feel of the news set and discuss what types of lighting are used in on-location shoots. What impact, if any, did students feel the lighting had on the story? This will be due next class period and can be used as a grade.

Model: (Day One and Two)

Show students how to set-up three point lighting and demonstrate the different types of lighting (natural light, camera light and diffusion). Explain to students the different types of lighting, how lighting is used, as well as how it affects talent and the scene.

Check for Understanding: (Day Two)

After explaining and showing examples of three point lighting, have students divide into groups of three to four and set up the three point lighting technique. Activity Two can also be used.

Guided Practice: (Day Two)

See Check for Understanding

Activity One: (Days One through Three)

Divided into groups, students will learn how to light a set with three-point lighting.

Activity Two: (Days One through Three)

Students will divide into groups of three or four and experiment with different lighting techniques. Each group will shoot footage using natural lighting (no camera light), shoot a scene with only the camera light and shoot a scene with diffused lighting using any technique they choose (paper, diffusion paper, a stocking). The scene footage will stay the same and each group will analyze the differences in lighting. What works? What doesn't work? What mood does the lighting convey?

Closure:

Students will review videos shot for Activity Two. Did the lighting work for each shoot? What was good about the lighting? What could be improved? Reiterate the importance of good lighting and how lighting can create a mood.

2. Lighting a Set

Independent Practice/Enrichment:

Have students watch a television show and explore lighting techniques and the how they differ from those used in the news broadcast. What impact does lighting have on these television shows?

Integration into Live Broadcast

Lighting will always play an integral part in the studio, as well as on-location interviews/stories.

National Educational Standards Met:

- Language Arts, Standard Seven: Conducts research on issues and interests by generating ideas and questions, and by posing problems. Gather, evaluate and synthesize data from a variety of sources to communicate discoveries in ways that suit purpose and audience.
- Language Arts, Standard Eight: Use a variety of technological and information resources to gather and synthesize information and to create and communicate knowledge.
- Technology, Standard Four: Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
- Technology, Standard Five: Uses technology to locate, evaluate and collect information from a variety of sources.
- Technology, Standard Six: Uses technology resources for solving problems and making informed decisions; employs technology in the development of strategies for solving problems in the real world.

3. Effective Audio

Effective Audio (Three class periods)

In this lesson, students will learn the importance of good audio in a live news broadcast, as well as understand the use of different types of microphones.

Any type of microphone will plug into TriCaster® four audio inputs. Once the microphones are plugged into TriCaster®, look at the meters on TriCaster®, adjusting volume levels on each channel until they are close to zero. Going above zero will cause distortion in the audio.



Three Styles of Microphone:

Handheld Microphone

A handheld microphone is designed to be held in the talent's hand. This can be wireless or hard wired, depending on the type. When doing an interview, the microphone should be held in front of the talent's mouth.

Lavalier Microphone (pin mic)

A lavalier microphone is a discreet wireless or hard-wired microphone designed for the talent to wear by pinning the microphone on an article of their clothing. The microphone should be placed in the center of the talent's chest for the best

sound. If using a hard-wired lavalier, make sure to hide the wires out of the camera's eye. When using a wireless, be sure to hide the transmitter. The transmitter is usually pinned on the back of the talent's pants or skirt.

Boom Microphone

The boom is a movable, adjustable arm that acts as support for the talent's microphone when broadcasting. The purpose of the boom is to keep the microphone above, centered and in front of the talent while staying out of the camera's range. The boom is able to move forward, backward or sideways and can be moved up or down. When raising or lowering the boom, the terms used are: "boom up" or "boom down."

Objectives/Knowledge Retained

Students will learn and understand how important good audio is in a broadcast, and learn how to achieve this by effectively using different types of microphones and adjusting audio levels using TriCaster® audio inputs and features.

Materials/Resources Needed:

- Hand held microphone
- Boom and lavalier microphone
- (if available)
- TriCaster®
- Lesson Three Handout – Effective Audio (Page 27)

3. Effective Audio

Anticipatory Set:

(Day One)

Pass out Lesson Three Handout. Explain to students the importance of good audio in a live broadcast, and show them how to achieve this by effectively using different types of microphones and adjusting audio levels using TriCaster® audio inputs and features. See Activity One. This will introduce students to the importance of good audio.

Model:

(Day One and Two)

After showing examples of good and bad audio, show students the different types of microphones and how and when they are used. Then show the class how audio is used in TriCaster®; how to adjust audio levels to achieve the right sound and how audio levels can be distorted to produce bad audio.

Check for Understanding:

(Day Two)

Student groups, or as a class, will demonstrate their understanding of microphones and audio levels by using the audio features on TriCaster®. Students will take turns using the microphones and adjusting audio levels in TriCaster®, while recording audio so that they can listen to the outcome and compare.

Guided Practice:

(Day Two)

See Model and Check for Understanding.

Activity One:

(Day One through Three)

As a group, students will learn the importance of audio by listening to good and bad audio examples. Bring in video shot by an amateur (with a decent picture but bad audio) and show to students. Then show students a news broadcast with an anchor segment and an on-location report. Ask students what types of microphones they think are being used. Ask students if they noticed a difference between audio in the amateur video and news video and what impact it had on the quality of the video.

Activity Two:

(Day One through Three)

Students will divide into groups of three or four and experiment with different microphones (if available) and audio features on TriCaster® (see TriCaster® User Guide). Student groups will take turns recording audio into TriCaster® with different microphones, as well as experiment with audio levels (distortion versus good audio levels) and compare.

Closure:

Students will compare and contrast the recorded audio. Observe students using TriCaster® audio features and provide guidance, ensuring that the students understand how to achieve good audio.

3. Effective Audio

Independent Practice/Enrichment:

Students are assigned a short research paper (no more than two-pages) on a specific microphone of their choice. The assignment should include the type of microphone, whether it's wired or wireless, what functionality the microphone uses, who would use this type of microphone and the cost. This will reinforce to the students that there are many types of microphones with a variety of features, as well as placing a value on the equipment. This will be due next class period and can be used as a grade.

Integration into Live Broadcast

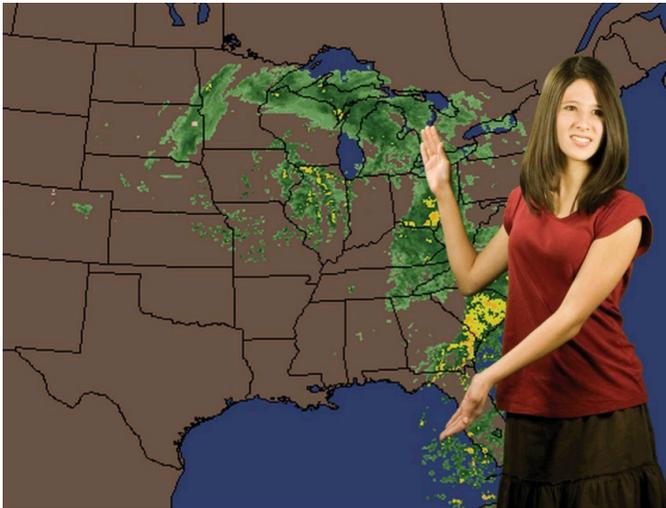
Good audio is an essential part of live broadcast. Students will always utilize microphones and good audio techniques in live broadcast to ensure a high- quality show.

National Educational Standards Met:

- Language Arts, Standard Seven: Conducts research on issues and interests by generating ideas and questions, and by posing problems. Gather, evaluate and synthesize data from a variety of sources to communicate discoveries in ways that suit purpose and audience.
- Language Arts, Standard Eight: Use a variety of technological and information resources to gather and synthesize information and to create and communicate knowledge.
- Technology, Standard Four: Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
- Technology, Standard Five: Uses technology to locate, evaluate and collect information from a variety of sources.
- Technology, Standard Six: Uses technology resources for solving problems and making informed decisions; employs technology in the development of strategies for solving problems in the real world.

LiveMatte™ (Use Five Class Periods)

In this lesson students will learn to use keying effectively and apply chromakey to the live broadcast journalism component with weather forecasts. Although there are many uses for chromakeying, news rooms tend to use keying mostly when reporting the weather. Students will also learn what works and what doesn't work when using the LiveMatte™ feature (frizzy hair, for example, does not work well with keying).



Additionally, students will understand the process of producing a live weather segment for their broadcast. Students will divide into groups and produce a weather segment, assigning each group member different tasks (script writing, meteorologist, camera operators and technical director) and perform the segment live in front of the class.

Good LiveMatte™ Techniques with TriCaster®:

The recipe for a perfect key is to point the cameras directly at the chroma wall/screen. Light the wall first, then bring in your talent and light them. The goal is to achieve even light (one of the biggest mistakes when keying is to over-light the set). Have students stand at least four feet in front of the chroma wall/screen and light them as you normally would with three-point

lighting (See Lesson two). To avoid shadows on the chroma wall/screen, it is imperative students stand at least four feet from the wall/screen. Once students are in front of the wall/screen, adjust the tolerance in the LiveMatte™ TriCaster® function (see TriCaster® User Guide) to where the student's body is solid (not transparent). By adjusting the tolerance, you can achieve a cleaner key.

Objectives/Knowledge Retained

Students will learn and understand LiveMatte™ and how this feature works with TriCaster®. Students will learn how to convert web images into JPEGs. Students will also understand using Scan Converter with TriCaster® (see NDI® Tools Guide for info on Scan Converter – this is a program that allows your laptop to be assigned as a switcher source across the network).

Materials/Resources Needed:

- One to three cameras (preferably more than one for switching between news and weather anchors)
TriCaster®
- An area or wall for chromakey (this can be achieved through chroma paint, chroma mat or chroma fabric/paper.)
- Television monitor

Anticipatory Set: (Day One)

Show a local news weather segment and ask the class if anyone knows how the information is displayed behind the weather person. Explain to students the function of keying and what it's used for. Below is a link with more information: http://en.wikipedia.org/wiki/Chroma_key

Input: (Day Two and Three)

As a class, students will begin to experiment with keying on TriCaster®. Students will take turns on TriCaster® while other students provide examples of what works and what doesn't work against the chroma wall/screen. Examples should include:

What doesn't work:

Frizzy hair, clothing similar in color as the chroma wall/screen and bad lighting.

What does work:

Smooth hair, contrasting clothing against the chroma wall/screen

Explain to students how to achieve good keying. Reference Good Chromakey Techniques with TriCaster® on page 12

Model: (Day One and Two)

Provide examples during all activities (showing students how to obtain the weather graphics, how to convert them to JPEG and input them into TriCaster®), as well as show students how to operate TriCaster® LiveMatte™ function.

Check for Understanding: (Ongoing)

Since students will be taking a "hands-on" approach, you will be able to assess if they understand the lesson.

Guided Practice: (Ongoing)

Work with students in their groups to obtain weather information, write the weather script and work with TriCaster® keying, lower-thirds and transition functions.

Activity One: (Day One)

In groups of five or more (if the class is small, two groups will be sufficient), students will visit the NOAA (National Oceanic and Atmospheric Association) Web site and download weather pertaining to their assigned area (assign a specific area for each group or each student group can choose their area).

Students should save the weather graphics as a JPEG which can then be copied into the TriCaster® graphics bin. Be sure that the students gather forecast information and satellite information.

<http://www.noaa.gov/>

Activity Two: (Day Two)

Students will take the information they gathered during Activity One and input the information into TriCaster® (see TriCaster® User Guide). Students can begin to experiment with TriCaster® lower-thirds feature (see TriCaster® User Guide). For example, a student can write the name of the weather person using one of more than 200 pre-made lower-third styles.

Activity Three: (Day Two and Three)

Students will begin experimenting in front of the chroma screen. As a point of reference, here is a live weather presentation by Dave Sweeney using TriCaster®:

<http://blog.oregonlive.com/davesweeney/>

At this time, students can experiment with what works and what doesn't. For example, someone with big or frizzy hair, or a student with the same color of clothes as the chroma wall/screen would not create a good key. (Refer to the above introduction pointers and TriCaster® User Guide for keying instructions and pointers.)

A monitor or television needs to be placed off to the side of the weather wall, so the student can turn to see the TriCaster® output and where they are in relation to the map behind them. Initially, this will be disorienting, as it is not a mirror image, but a projected image. So, facing the camera and raising their right hand will see the hand go up on the left side of the screen.

After experimenting with keying, have student groups begin to write a one-minute weather script. Student groups will designate a director, a weather person, a camera operator, and a technical director (to call for titles and cue the talent). Show an example of a news weather cast and have student groups model their scripts after the weather segment.

Activity Four: (Day Four and Five)

Student groups will present their weather report live to the class. Students will be expected to use lower thirds and transitions (see TriCaster® User Guide). They will also use Scan Converter to send source material into TriCaster® from various websites.

Closure: (Day Four and Five) Student groups will present their weather reports live to the class. Student groups will demonstrate their knowledge by presenting the weather report in a timely fashion (no more than one to two minutes) and use of TriCaster® (switching, lower-thirds and transition abilities). Students will also demonstrate their ability to work together as a team.

Independent Practice/Enrichment:

Arrange for the weather person to come to the school (or for students to go to the station) and discuss with students what goes into producing the weather broadcast, how the meteorologist works with the news crew, and what types of credentials are needed to become a meteorologist.

Integration into Live Broadcast

Integrating a weather segment into your live broadcast ensures students will continue to use and understand TriCaster® LiveMatte™ feature, as well as understand how weather information is acquired and how to use this information in TriCaster® and the live broadcast.

National Educational Standards Met:

- Language Arts, Standard One: Read a wide range of print and non-print texts to build an understanding of texts, of themselves and of the cultures of the United States and the world; to acquire new information, to respond to the needs and demands of society and the workplace, and for personal fulfillment.
- Language Arts, Standard Four: Adjust their use of spoken, written and visual language to communicate effectively with a variety of audiences and for different purposes.
- Language Arts, Standard Seven: Conducts research on issues and interests by generating ideas and questions, and by posing problems. Gather, evaluate and synthesize data from a variety of sources to communicate discoveries in ways that suit purpose and audience.
- Language Arts, Standard Eight: Use a variety of technological and information resources to gather and synthesize information and to create and communicate knowledge.
- Technology, Standard Four: Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
- Technology, Standard Five: Uses technology to locate, evaluate and collect information from a variety of sources.
- Technology, Standard Six: Uses technology resources for solving problems and making informed decisions; employs technology in the development of strategies for solving problems in the real world.

5. Production Titling

Production Titling – It's Super – (Three Class Periods)

In this lesson, students will learn the importance of re-enforcing the spoken word with key points and learn to identify news makers and on-air staff with names and titles. In the fast, concise format of news and documentary reporting, titles are digital on-screen graphics that serve several critical functions. Titles allow main themes to be transmitted without employing narrative and provide visual back-up to the spoken word. Alternately, titles can convey important information that is not otherwise mentioned, such as the names of students or the full titles of teachers and administrators while they speak.

Additionally, students will understand the different types of titles used in television production and when it is appropriate to use each type of title.



Two Common Title References:

Title Page

A title page is the traditional reference to the text graphics that appear in a video production. This term can be interchanged with “super.”

Super (Superimpose)

Super is short-hand for superimpose. Most of the page containing the title is transparent and the text itself is a graphic layered on top, or superimposed over, the video being shown.

Is it Safe?

Creating video titles are distinctly different than titles for display on a computer screen because of the variability of the image placement in the television tube. A margin of error must be added for television displays, as there is great difference where a particular screen ‘edge’ occurs from one model to the next. For this reason, when creating titles in LiveText, there are two different bounding boxes in the main display. The outer boundary is called action safe, and is the minimal area of coverage. If you are using a full-screen background or graphic, it must be at least this large. The inner boundary is called title safe and any text to be displayed must be within this region. This 20 percent safety margin ensures that older tube televisions won't have words going off the edge of the screen. All templates available in LiveText follow these rules.

The Four Types of Titles and When to Use Them:

Full Page

This title occupies the entire screen with text usually centered. This is used for the opening of a show or when there are several key facts to present. Full page titles can either be text on top of a graphic, or text with video in the background. If there are several facts to be presented at once, it may appear as several bullet points on screen.

Bullet Build

In order to keep the audience from reading ahead, it is a common practice to create a ‘bullet build’. For a three-point page of text, you create the whole page, and duplicate it twice. Then page one has bullets two and three deleted, and page two has bullet three deleted. You now have a series of pages, bringing up each point as the anchor or narrator begins speaking about that point.

5. Production Titling

Lower Third

This title type is named for its placement on the screen, toward the bottom of the frame. This is used to identify people who are speaking onscreen and is positioned so that their name and title appears below their chin. While the title templates in TriCaster® are properly positioned, it is important to place your own custom titles for your show within the title safe boundary. Variations of this theme include left and right side bars, which still leave the majority of the video screen unobstructed.

Crawl

This type of title displays full sentences when you want to keep your main screen visible. Text crawls across the bottom of the screen that is slow enough for the audience to read. This is commonly seen when there is a local weather warning with specifics about a storm and its direction of movement. With a crawl, the show can continue uninterrupted while secondary information passes along the bottom. TriCaster® can display crawls in a live production by creating the text in integrated LiveText, and then sending to the session. (See the User Guide for details).

Scroll

This title type is what you generally find with a show's closing credits, to display the names of everyone who helped produce the show. This slowly scrolls from bottom to top at a speed that is easy for the audience to read along. It may display over a graphic or a simple black background. Scrolls can also be created and displayed during live shows using integrated LiveText.

Bug

Though not really a title type, this is worth mentioning, as it is available as a template type in the graphics bin. This is where you insert a small graphic into the corner of the screen, such as your school TV's station logo. Bugs became prominent with the proliferation of cable television, so broadcasters could brand their shows and remind viewers what channel they were watching. For your own shows, this can be used to help the student body differentiate between different programs you produce.

Objectives/Knowledge Retained

Student gains an understanding of the different types of titles and when each is used in a live production.

Materials/Resources Needed:

- One to three cameras (preferably more than one for switching between anchor and guest) TriCaster®
- Lesson Five Handout – Production Titles (Pages 28 & 29)

5. Production Titling

Anticipatory Set: (Day One)

Pass out Lesson Five Handout. Explain to students the different types of titles and the reasons behind each title type and how it is used. Show a local news report and ask the class if anyone knows how names are displayed on screen. Explain to students the function of titles and what they are used for.

Input: (Day Two and Three)

As a class, students will begin to experiment with titles on TriCaster®. Students will take turns on TriCaster®, while other students provide examples of what works and what doesn't work, including coordination with camera operators to leave sufficient framing to include titles on tight head shots.

Model: (Day One and Two)

Provide examples during all activities (show students how to generate titles in LiveText, how to convert logos to .png format and then input these into TriCaster® for use as bugs), as well as show students how to cut or fade titles on and off screen during a live show.

Check for Understanding: (Ongoing)

Since students will be taking a “hands-on” approach, you will be able to assess if they understand the lesson.

Guided Practice: (Ongoing)

Students in their groups will work together to create their own titles; work with TriCaster® GFX tab, displaying lower-thirds and full pages of text.

Activity One: (Day One)

In groups of five or more (if the class is small, two groups will be sufficient), students will visit an online news streaming website such as MSNBC. Watch several reports and note the use of titles and what type of titles are used. Keep in mind this observation applies not only to the

news reports but to the graphics in the lead-in advertising. Have students take turns watching a report you have chosen on the site, preferably with some statistics or full page titles involved. Have the class break into two groups, with one group watching the report, and the other listening. Quiz the students on what they remembered. You will likely find that the students both hearing and seeing will retain more facts from the story than those just listened. Discuss the possible impact of hearing a person's name and also seeing that name.

<http://tv.msnbc.com>

Activity Two: (Day Two)

Students will take the information they gathered during Activity One and generate title template pages for a live production (see TriCaster® User Guide on Title Templates). Students can begin to experiment with TriCaster® lower-thirds feature (see TriCaster® User Guide). For example, a student can place the name of the weather person using one of the dozens of pre-made lower-third styles.

Activity Three: (Day Two and Three)

Students will storyboard a short newscast about a current topic or school issue, but instead of using on-camera reporting or stand-ups, they must rely on titles to convey themes, questions and transitions. Students must include at least one title of each type – full page, lower third, scroll and crawl.

Closure: (Day Four and Five)

Student groups will present their titles live to the class. Student groups will demonstrate their knowledge by presenting their titles in a timely fashion (no more than one to two minutes) and use of TriCaster® (transitioning lower-thirds on and off the screen). Students will also demonstrate their ability to work together as a team.

5. Production Titling

Integration into Live Broadcast

Integrating titles into your live broadcast ensures students will continue to use and understand LiveText, as well as understand the necessary pacing of text on screen, allowing viewers adequate time to read it during the live broadcast.

National Educational Standards Met:

- Language Arts, Standard One: Read a wide range of print and non-print texts to build an understanding of texts, of themselves and of the cultures of the United States and the world; to acquire new information, to respond to the needs and demands of society and the workplace, and for personal fulfillment.
- Language Arts, Standard Four: Adjust their use of spoken, written and visual language to communicate effectively with a variety of audiences and for different purposes.
- Language Arts, Standard Seven: Conducts research on issues and interests by generating ideas and questions, and by posing problems. Gather, evaluate and synthesize data from a variety of sources to communicate discoveries in ways that suit purpose and audience.
- Language Arts, Standard Eight: Use a variety of technological and information resources to gather and synthesize information and to create and communicate knowledge.
- Technology, Standard Four: Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
- Technology, Standard Five: Uses technology to locate, evaluate and collect information from a variety of sources.
- Technology, Standard Six: Uses technology resources for solving problems and making informed decisions; employs technology in the development of strategies for solving problems in the real world.

6. Crew Assignments and Operations

Crew assignment and operations (Four to Five Class Periods)

Crew assignments and operation are imperative to a smooth-running broadcast and production crew. Therefore, students must know each assignment definition and its responsibilities. While you can assign a student to a specific task, it is preferable to rotate throughout the semester, enabling all students to experience each role. This is an excellent opportunity for you as an educator to essentially “cross-train” these students while allowing each student to substitute when required.



There are several crew assignments and job descriptions in a typical newsroom:

Daily News Producer

The daily news producer is responsible for the newscast production. He/she is responsible for the entire production crew and coordinating technical and non-technical production elements of the broadcast. The daily news producer is also responsible for gathering and assigning stories.

Line Producer

Responsible for producing the program, the line producer oversees studio preparation, equipment, on-air broadcast, including anchor direction, and studio clean-up post-broadcast. The line producer is also responsible for overseeing the run-through, or pre-show, ensuring the script is smooth and anchors are polished.

Anchor(s)

The anchor's responsibilities include preparing the broadcast script around reporter stories and features (with the direction from the assigned producer) and ensuring a professional, on-air broadcast. Good posture, clear speaking and pace are very important aspects to consider when anchoring. It is the anchor's job to engage the audience.

Director

The director is responsible for directing all aspects of the broadcast, including the technical director and camera operators, ensuring both receive direction on switching cameras and count-downs.

Technical Director

Taking direction from the director, the technical director operates TriCaster® during the live broadcast, including punching, switching and fades, as well as ensures all clips for the day's broadcast are loaded and cued.

Camera Person(s)

Responsible for camera operation during the broadcast, the camera person(s) should make sure all cameras are operational before the broadcast (white-balanced, on the tripod, all wiring is correct and the video is being seen by TriCaster®.) The camera operator should go through the broadcast run-through, familiarizing him/herself with the schedule and plan.

6. Crew Assignments and Operations

Character Generator Operator/Lower Thirds

The character generation operator creates all text pages (for example, credits), lower thirds and overlays on TriCaster® before the broadcast. He/she will also ensure all still pictures are available and cued for broadcast.

Audio Engineer

Assisting the director, the audio engineer makes sure the sound board is on, working properly and the audio is registering on TriCaster®. The audio engineer is also responsible for microphones and assures that all on-air broadcast participants can be heard. Additionally, the audio engineer chooses the music for each broadcast.

Script Editors

Script editors are responsible for ensuring the script is well-written, grammatically correct and factually accurate. If corrections need to be made, or problems are evident, it's the script editor's job to correct the information.

Sports Producer

The sports producer gathers scores from relevant games, provides the scores, results, game footage, interviews, etc. to the producer and character generator operator.

Reporter(s)

The reporter's main responsibility is to gather information for stories and features for the broadcast. This is done by interviews, press releases, public records and other sources. Splitting his/her time between working in the newsroom and going on field assignments, they compile, write and sometimes edit the story.

Floor Director

The stage manager is responsible for ensuring the set is ready each day for broadcast, including set design, dressing the set for appropriate events and making sure the overall appearance of the set is broadcast-ready. The floor director also signals to on-camera talent (anchors, etc.) which camera is active and how much time is remaining in each story or segment.

Objectives/Knowledge Retained

Students will gain an understanding of a production crew and the responsibilities of each crew member. This will also reinforce the importance of teamwork in producing a live broadcast.

Materials/Resources Needed:

- Individual crew assignments folded
- Bucket/hat or other container to draw assignments
- Lesson Six Handout – Crew Assignments and Operation (Page 30 - 31)

6. Crew Assignments and Operations

Anticipatory Set: (Day One):

Pass out Handout Lesson Six to students. Ask students for examples of team work.

Objective/Purpose:

To introduce to students individual roles in the news room while emphasizing the importance of all of these individual roles coming together and working as a team with one goal: to produce a show.

Input: (Day One)

Show a segment of the evening news focusing on the anchor. Ask students what they think goes into producing the show while stressing the importance of team work and team building

Model: (Day One and Two)

Pick out a crew assignment from the hat. Write the crew assignment on the chalk/white board. Tell students what you expect from the paper they will be writing:

- A two to three double-spaced, type-written paper
- Use and cite at least four sources
- Student job is to research the crew assignment, paying close attention to:
 - Job description
 - Job duties
 - Job opportunities
 - Job salary (low/median/high)
- How this crew assignment fits in with the overall news production
- Whether or not this job is something the student would want to do
- Why or why not

Check for Understanding: (Day Two or Three)

Tell students they will be given a quiz on the crew assignment definitions (this can be Day Two or Day Three of the lesson)

Guided Practice: (Ongoing)

Since most of the written assignment will be done in class, be available for any questions or guidance required to complete the assignment.

Activity:

Students will pick from a hat/bucket/jar a crew assignment (the students will not know what assignment they are getting) and research that individual crew assignment. Resources used can be the library or Internet during class (outside of class students can actually contact an area news affiliate and gather information from a person actually doing the job). Information included should be the responsibilities of the specific assignment, the importance of the crew assignment, how it benefits the production team, the education required to pursue this career, technical knowledge required and starting salary.

Closure: (Day Four and Five)

Students will present their research to the class as a presentation.

6. Crew Assignments and Operations

Independent Practice/Enrichment:

Arrange to take the students on a field trip to a local television station to view the production of a live newscast. This will give the students the opportunity to see each crew member perform their responsibilities and understand how their role impacts the live news broadcast.

Integration into Live Broadcast

Crew assignments will always be at the forefront of a broadcast. It is recommended that each student performs a different crew assignment throughout the class to ensure cross-training. This is also a great way for students to discover which assignment they enjoy the most.

National Educational Standards Met:

- Language Arts, Standard One: Read a wide range of print and non-print texts to build an understanding of texts, of themselves and of the cultures of the United States and the world; to acquire new information, to respond to the needs and demands of society and the workplace, and for personal fulfillment.
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- Technology, Standard Six: Uses technology resources for solving problems and making informed decisions; employs technology in the development of strategies for solving problems in the real world.

Lights, CAMERA, Action: Basic Camera Composition

Long Shot

A long shot, also referred to as an establishing shot, is used to show a large view of something. Often used to show location, buildings or a large group of people, long shots are what to use to establish a setting.

Medium Shot

A medium shot is used to focus the audience's attention by cutting out unwanted people, objects or background and focusing on the subject.

Two-Shot

A two-shot is used when there are co-anchors on the news desk and the camera zooms back wide enough to include each anchor in the frame.

Close-Up Shot

A close-up shot is used to isolate what is important in the shot or enlarge something in order to focus the audience's attention.

Extreme Close-Up Shot

An extreme-close up shot is used to further isolate or enlarge an object in order to focus the audience's attention.

Over-the-Shoulder Shot

The over-the-shoulder shot is used to show a close up of the news anchor on one side of the frame and a text or video window on the other side, over the anchor's shoulder.

Subjective Views

A subjective view is used to create the effect that the anchor is speaking directly with the audience by having the anchor speak into the camera.

Objective View

An objective view is when the camera is not addressed directly by those in the shot in order to make the audience feel like an observer and not a participant. This shot is often used during an interview.

Eye-Level View

An eye level view is when the camera is set at eye level with the anchor in the shot.

High-Angle View

A high-angle view involves the camera being placed higher than eye-level, looking down at the talent.

Low-Angle View

This shot involves the camera looking up towards the talent, giving the audience the impression that the talent is in a position of power.

Rule of Thirds

The Rule of Thirds states that an image can be divided into nine equal parts by dividing it with two equally-spaced horizontal lines and two equally-spaced vertical lines. The four points formed by the intersections of these lines are where the human eye directs its attention to. To create video with good composition, place the most important part of the picture at one of the four points.

Headroom

Headroom refers to the space above the talent's head. If there is too much or too little headroom, the talent will look unbalanced, cramped or both.

Lead Room

This simply allows space for someone or something to move, for example, a moving person or a car. Leave space for them to move rather than crowding the side of a screen.

Background

The backdrop behind the talent can either enhance or detract from the shot. It is important to take the background into consideration as the shot is framed to make sure that no object in the background looks as though it is intruding upon the image in focus. For example, a pole or a sign in the background could look as though it is protruding from the head of the talent if the shot is not framed properly.

Foreground

The same principle for background can be used for foreground. Always be aware of what is in front of the talent.

Balance

While you want to provide lead room in the frame in the direction that someone is facing, if you provide too much room, the shot will lose balance. If the subject is facing right, you should place them just to the left of center.

Pan

A pan is when you rotate the camera on the horizontal.

Zoom

Changing the lens to a narrow-angle position (zoom-in, or close up), or to a wide- angle position (zoom-out).

Slow Zoom

While the subject is speaking, very slowly zooming in adds impact to what is being said. This is a great technique to use when an anchor is closing a report.

Tilt

Tilt is when you rotate the camera up or down.

Truck

Truck is when you move the camera laterally using a camera dolly or pedestal.

Dolly

A dolly provides support for the camera, which allows the camera to move in all directions, such as a tripod on wheels. To move the camera toward something is called "dolly in," moving the camera away from something is called "dolly out."

Lighting a Set (Three Class Periods)

In this lesson, students will learn how to effectively light a set, as well as use natural light and single camera lighting. Students will also learn the different types of lighting, including three-point lighting, which will be utilized on the news set.

Key Light

A key light is the main light in front of and to one side of the talent.



Fill Light

A fill light is a less bright light off to the opposite side of the key light.



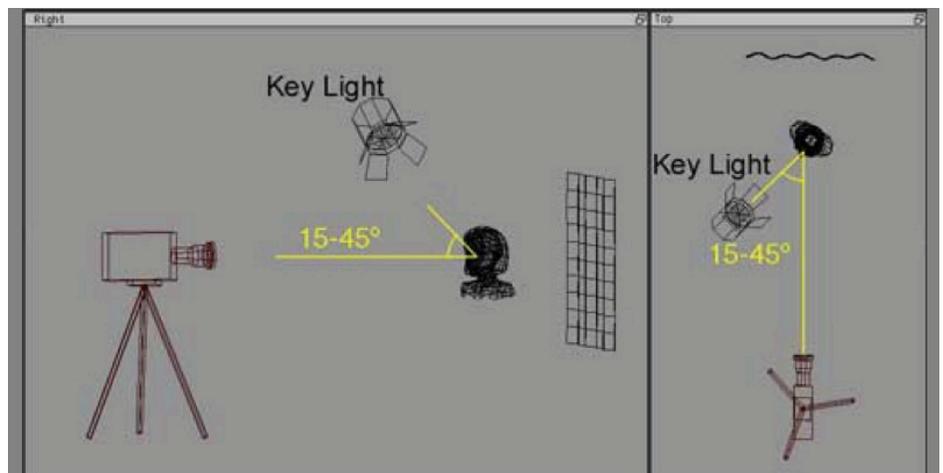
Hair Light/Rim Light

A hair light or rim light is a small light pointing down and behind the talent to give highlights off of the hair and shoulders.



Three-point Lighting

Three-point lighting is a combination of key, fill and hair lights on the talent. The fill light should be about half the intensity of the key light, to emphasize facial dimension



Effective Audio

Any type of microphone will plug into TriCaster® four audio inputs. Once the microphones are plugged into TriCaster®, look at the meters on TriCaster®, adjusting volume levels on each channel until they are close to zero. Going above zero will cause distortion in the audio.

Three Styles of Microphone:

Handheld Microphone

A handheld microphone is designed to be held in the talent's hand. This can be wireless or hard wired, depending on the type. When doing an interview, the microphone should be held in front of the talent's mouth.



Lavaliere Microphone (pin mic)

A lavaliere microphone is a discreet wireless or hard-wired microphone designed for the talent to wear by pinning the microphone on an article of their clothing. The microphone should be placed in the center of the talent's chest for the best sound. If using a hard-wired lavaliere, make sure to hide the wires out of the camera's eye. When using a wireless, be sure to hide the transmitter. The transmitter is usually pinned on the back of the talent's pants or skirt.

Boom Microphone

The boom is a movable, adjustable arm that acts as support for the talent's microphone when broadcasting. The purpose of the boom is to keep the microphone above, centered and in front of the talent while staying out of the camera's range. The boom is able to move forward, backward or sideways and can be moved up or down. When raising or lowering the boom, the terms used are: "boom up" or "boom down."

Production Titling

Two Common Title References:

Title Page

A title page is the traditional reference to the text graphics that appear in a video production. This term can be interchanged with “super.”

Super (Superimpose)

Super is short-hand for superimpose. Most of the page containing the title is transparent and the text itself is a graphic layered on top, or superimposed over, the video being shown.

Is it Safe?

Creating video titles are distinctly different than titles for display on a computer screen because of the variability of the image placement in the television tube. A margin of error must be added for television displays, as there is great difference where a particular screen ‘edge’ occurs from one model to the next. For this reason, when creating titles in LiveText, there are two different bounding boxes in the main display. The outer boundary is called action safe, and is the minimal area of coverage. If you are using a full-screen background or graphic, it must be at least this large. The inner boundary is called title safe and any text to be displayed must be within this region. This 20 percent safety margin ensures that older tube televisions won’t have words going off the edge of the screen. All templates available in LiveText follow these rules.

The Four Types of Titles and When to Use Them:

Full Page

This title occupies the entire screen with text usually centered. This is used for the opening of a show or when there are several key facts to present. Full page titles can either be text on top of a graphic, or text with video in the background. If there are several facts to be presented at once, it may appear as several bullet points on screen.

Bullet Build

In order to keep the audience from reading ahead, it is a common practice to create a ‘bullet build’. For a three-point page of text, you create the whole page, and duplicate it twice. Then page one has bullets two and three deleted, and page two has bullet three deleted. You now have a series of pages, bringing up each point as the anchor or narrator begins speaking about that point.

Lower Third

This title type is named for its placement on the screen, toward the bottom of the frame. This is used to identify people who are speaking onscreen and is positioned so that their name and title appears below their chin. While the title templates in TriCaster® are properly positioned, it is important to place your own custom titles for your show within the title safe boundary.

Variations of this theme include left and right side bars, which still leave the majority of the video screen unobstructed.

Crawl

This type of title displays full sentences when you want to keep your main screen visible. Text crawls across the bottom of the screen that is slow enough for the audience to read. This is commonly seen when there is a local weather warning with specifics about a storm and its direction of movement. With a crawl, the show can continue uninterrupted while secondary information passes along the bottom. TriCaster® can display crawls in a live production by creating the text in integrated LiveText, and then sending to the session. (See the User Guide for details).

Scroll

This title type is what you generally find with a show's closing credits, to display the names of everyone who helped produce the show. This slowly scrolls from bottom to top at a speed that is easy for the audience to read along. It may display over a graphic or a simple black background. Scrolls can also be created and displayed during live shows using integrated LiveText.

Bug

Though not really a title type, this is worth mentioning, as it is available as a template type in the graphics bin. This is where you insert a small graphic into the corner of the screen, such as your school TV's station logo. Bugs became prominent with the proliferation of cable television, so broadcasters could brand their shows and remind viewers what channel they were watching. For your own shows, this can be used to help the student body differentiate between different programs you produce.

Crew assignment and operations

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Director

The director is responsible for directing all aspects of the broadcast, including the technical director and camera operators, ensuring both receive direction on switching cameras and count-downs.

Technical Director

Taking direction from the director, the technical director operates TriCaster® during the live broadcast, including punching, switching and fades, as well as ensures all clips for the day's broadcast are loaded and cued.

Camera Person(s)

Responsible for camera operation during the broadcast, the camera person(s) should make sure all cameras are operational before the broadcast (white- balanced, on the tripod, all wiring is correct and the video is being seen by TriCaster®.) The camera operator should go through the broadcast run-through, familiarizing him/herself with the schedule and plan.

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The character generation operator creates all text pages (for example, credits), lower thirds and overlays on TriCaster® before the broadcast. He/she will also ensure all still pictures are available and cued for broadcast.

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Assisting the director, the audio engineer makes sure the sound board is on, working properly and the audio is registering on TriCaster®. The audio engineer is also responsible for microphones and assures that all on-air broadcast participants can be heard. Additionally, the audio engineer chooses the music for each broadcast.

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