

# Enhancing Education

A Producer's Guide

## ➤ Formats: Video

An obvious product of your broadcast project will be a video program that you can distribute to educational audiences in videocassette or DVD format.

While this is a cost-effective way to bring your video to educational audiences, especially if you supplement it with a teacher's guide, programs for the general broadcast audience are often not useful for presentation in classrooms. They are generally too long for typical class sessions; the pacing and narration is geared for an adult audience; the approach to the content is narrative, not adequately focused for pedagogy; and the narrative elements, while wonderful for an adult audience, may not be interesting for kids, who scream, "What does this have to do with me?"

As a result, you may want to consider reworking or supplementing your video with other video-based elements more specifically targeted to educational audiences. These may include short-form videos for classroom use, teacher professional development videos, or enhanced DVDs.

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## *Formats: Video*

### Characteristics of Video Media

Video is the medium that you, as a producer, are most familiar with.

- Video can be distributed as “hard copy” on videocassette or DVD, digitized and delivered on the Web or CD, or distributed through specialized educational channels.
- Video is especially good at telling a story or showing things that require narrative structure or moving images.
- Video often has an emotional impact. It’s great at “taking you there and making you care.”
- Today, VCRs are widely accessible in classrooms and informal educational settings.



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## *Formats: Video*

### Types of Video

#### **Classroom Video**

Students and teachers can always refer to longer documentaries to augment understanding, but succinct, focused projects are most useful for the classroom. Valuable underlying material can be shaped for classroom use, though it typically needs to be reshaped, not merely “lifted.” A first step in repurposing video for classroom use is referencing national content standards for a subject area, which will help you focus story and content.

In addition, advisors—teachers, teacher trainers, and other experts—are useful in identifying what teachers need most help with, and what most interests kids, in a classroom. Advisors are also useful in reviewing scripts and rough cuts.

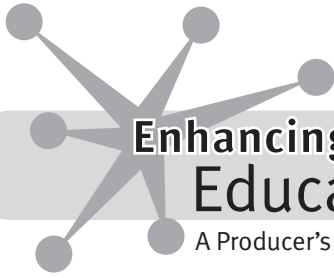
To shape video materials for classroom use, you may need to create new animation to sharpen kids’ understanding of the content, especially in math and science. Similarly, social studies content may require additional maps or charts to be generated. Consider shooting kid-friendly interviews with younger experts, experts of color, and women to make the videos more accessible. Finally, you may want to add narrative elements, such as kids’ personal stories, to bring the material alive for students. Very often, you will need to rewrite and rerecord narration to suit your target audience.

#### **Teacher Professional Development Video**

Educators need, want, and benefit from seeing examples of effective practice. Video provides opportunities to watch other teachers in action, implementing specific strategies and content in recognizable settings, through a process that unfolds over time. In addition, visual images can be used to prompt and inform group analysis, discussion, inquiry, and reflection. Usually not developed as “how-to” guides, classroom videos capture a range of content and methodology, reflecting research-based best practices, like standards for teaching and learning. They bridge theory and practice, offering rich images of what is possible for teacher professional development.

#### **Enhanced DVD**

DVDs have a digital advantage over VHS formats as educational outreach materials. They offer easy access to scene selection, eliminating the guesswork of finding a particular scene on tape. Also, enhancements can be created and packaged with the broadcast program, creating an experience that can be analogous to broadband delivery of supplemental materials. These



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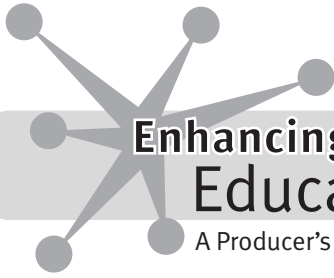
## *Formats: Video*

### Types of Video (cont'd)

enhancements can be tailored to curriculum objectives and provide additional information in a compelling and accessible format for students, especially in classrooms without Internet connections.

#### **Video for the Web**

When you produce video for the Web, you need to balance video production values and Web production values. Both should serve the educational mission. Ultimately, Web video appears in a context in which it is surrounded by other material, such as text, navigation, images, even computer desktop clutter. Accordingly, it is generally a small part of the overall presentation and must work within that presentation rather than seek to dominate it.



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## Formats: Video

### Video Production & Distribution

As a video producer, you're probably more than aware of the process involved in making a video, and all the products described here are, in one form or another, videos. Yet each has its own particular content, production, post-production, and distribution considerations.

Here are step-by-step methods you can use or adapt for making a range of educational video materials, as well as particular things to keep in mind as you plan for producing and distributing them.

- Classroom Video Production & Distribution . . . . . 6**
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  - Pre-Production
  - Develop the Treatment
  - Production
  - Post-Production
  - Distribution / Shut Down
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## ➤ *Formats: Video: Classroom Video Production & Distribution*

### Develop the Concept

Once you have decided that classroom video materials will be part of your educational outreach program, your first step is to develop the concept for those videos. The process is very similar to the methods you're familiar with for producing any video project. The following questions can help you develop the concept for your classroom videos:

- Where will the videos be used? For example, on the Web, in classrooms with students, for teacher professional development?
- Who is the audience? If students, be very specific about grade level.
- What is the purpose of the videos? Is it to support curriculum, motivate students, provide narrative context for deeper pedagogical content, provide teachers with content knowledge?
- How will the videos fit in with other elements of your educational outreach program, such as your Web site, print materials, or online courses?
- How will the classroom videos align with the on-air broadcast? Do you need to create a schedule that corresponds to the broadcast?
- What budget do you have available? Based on your classroom video budget, how many minutes can you afford to produce? Can you afford new shooting? Do you have enough money to cover re-clearing rights for third-party materials?

Answers to these questions will inform many aspects of your videos, including length, amount of animation, graphics, use of experts, narration, etc. They will also dictate your production timeline and the size of your production team. Note that the content will need to correlate to national content standards and, where possible, to state standards as well.

In reversioning the broadcast series *Building Big*, for example, the videos had to be ready six weeks prior to broadcast in order to be packaged for distribution when the broadcast programs were released. Therefore, the production timeline was compressed.



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## ➤ *Formats: Video: Classroom Video Production & Distribution*

### Pre-Production

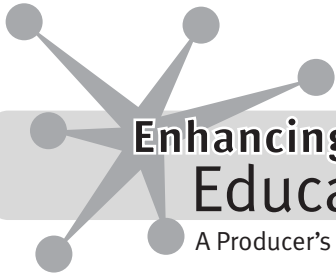
At this stage you might want to assemble a “kitchen cabinet” of advisors, a mix of classroom practitioners and content experts who can help to refine the concept and suggest key elements to include.

Also during pre-production, assemble the production team. The size of the team will depend upon the scope of the video effort. For example, in the case of *Building Big*, there were two teams consisting of a producer, an associate producer, and an occasional production assistant.

Refine your production timeline so it correlates with a review process. Review stages should include treatment, rough cut, and fine cut. Intra-organizational staff as well as advisors should be built into the review loops. If required, include funders in the review loop as well.

Carefully review availability of rights for underlying broadcast material. Remember, clearing the broadcast program for audiovisual use does not necessarily include versioning rights. You should also be aware of WGA (<http://www.wga.org>) and DGA (<http://www.dga.org>) requirements.

At this stage, consult regularly with other members of the educational outreach team for compatibility and integration, including course developers, teacher's guide writers, Web site producers, and even graphic designers.



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## Formats: Video: Classroom Video Production & Distribution

### Develop the Treatment

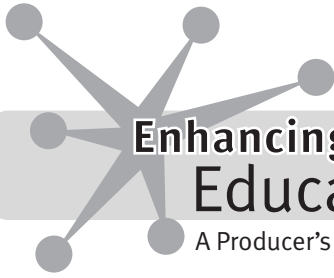
This is the stage in which the project concepts become concrete. Stories, images, and on-camera experts are all built into the treatment development stage.

Research is going full tilt as you look for background information, links to educational standards, on-camera talent, and stock footage. But the paramount focus of this phase is to create the narrative scaffolding on which the final videos will be built. Be prepared for dead ends, story lines that need to be adjusted, and gaps in the visual material you will have.

In terms of style and format, it is important at this stage to be acutely aware of the needs of your audience and the level of prior knowledge they may or may not bring to the material. Remember, these videos are for students, not for a general audience. You may need to take into account grade-level considerations, such as reading and comprehension level. The *Building Big* broadcast series, for example, presented the controversy around the Citicorp Building in New York, while the reversioned student videos emphasized the engineering solutions that were put into place to correct the building flaws at Citicorp.

This is also the stage when you determine what, if any, new production you will be doing. There is often a need for this. For the *Building Big* student videos, new interviews were shot with younger experts and experts of color, and children were interviewed for their perceptions about how skyscrapers are built. Hands-on activities were modeled by parents and children in a second set of *Building Big* student videos, which, when distributed with the broadcast version, were a valuable extra feature in the home video market.





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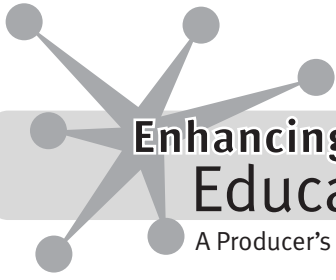
## Formats: Video: Classroom Video Production & Distribution

### Production

Once your advisors have signed off on the treatment, you are ready to begin production. This is really no different from the video production with which you are already well acquainted. However, if you expect to stream these videos on the Web, consult a Web producer on the particulars of producing video for the Web. You should also identify your graphic needs and meet with your designer so the graphics will be ready when you need them for post-production.

Idiosyncratic to producing reversioned classroom videos is the interview process. You will want interviewees who can speak succinctly and at a level appropriate to your audience. They may have to carry difficult pedagogical content, so the questions you ask, in some cases, may need to be very direct and almost didactic. For example, in *Building Big*, an engineer was asked to provide an analogy to describe the foundation of a skyscraper and its structure. He did so by describing the building's foundation as the feet and the structure as the body. Special footage was shot to enhance that description.

At this stage you will also identify your graphic needs. Meet early on with your designer so the graphics are ready when you need them for post-production.



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## *Formats: Video: Classroom Video Production & Distribution*

### Post-Production

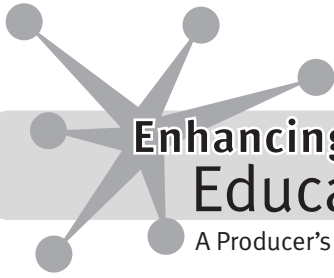
Post-production, like production, is no different for reversioned classroom video programs than for original broadcast programs. It is always helpful to do a paper cut, assemble materials into a rough cut, and have the rough cut reviewed by advisors. Ask advisors to respond to the tape in writing. They should view the rough cut for clarity, educational rigor, accuracy, and usefulness to the target audience. They may not always agree. Part of your job is to balance advisor responses.

At this stage, be aware that you will have to completely rewrite narration that accompanies whatever material you have taken from the broadcast. The broadcast will have been cut for a different rhythm and, more importantly, for a different audience.

At this stage you will also identify your narrator; choose someone with a tone appropriate for the target audience.

Again, as with other productions, you will be building narrative sequences based on the underlying broadcast material, stock footage, stills, and graphics, where needed.

As a final check, advisors should review the fine cut, prior to narration record, music, online, and mix. This review should aim narrower than their previous reviews, as it is meant to catch any last-minute glitches.



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## ➤ *Formats: Video: Classroom Video Production & Distribution*

### Distribution

Distribution varies from project to project and organization to organization. Be aware of all the materials that comprise promotion and outreach for the broadcast and educational outreach. Provide written descriptions for promotional use to distributors and publicity personnel. Make sure that you provide an adequate inventory of tapes for screenings and promotion. Help the distribution effort by suggesting national organizations, conferences, and publications that may be interested in these videos.

### Shut Down

Shut down differs from organization to organization. Usually the final activities include completing cue sheets and tying up the loose ends for licensing rights releases.

As a courtesy, provide copies of the videos to advisors, on-camera talent, and other participants.



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## *Formats: Video: Teacher Development Video Production & Distribution*

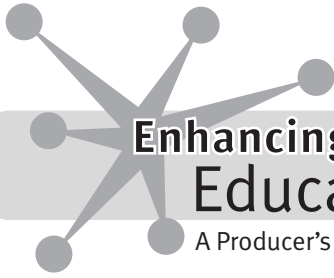
### Develop the Concept

First, determine the issues you are trying to help teachers address. In other words, what do teachers need? What images do they need to see to bring about changes in their teaching practices or their understanding? What is the guiding principle for the project? For example, in order to illustrate math standards with classroom video, you would need to examine the underlying spirit of the standards and the relationship between content (what is taught) and process (how it is taught).

Research your topic: Know the players; identify the issues, policies, and controversies; and locate the major resources and projects that already exist in this area. You may also want to review the National Staff Development Council (NSDC) teacher professional development standards (<http://www.nsd.org/educatorindex.htm>).

Ask key questions, such as the following:

- Where will the videos be used—for example, on the Web, in teacher professional development workshops, for pre-service teacher education?
- Who is the audience? Be very specific about grade level and level of teacher expertise.
- What is the purpose of the videos? Is it to support curriculum, motivate teachers, encourage reflection on practice, launch professional conversations, provide teachers with content knowledge? How will teachers use the videos to build on prior knowledge?
- How will the videos fit in with the on-air broadcast?
- How will the videos fit in with other elements of your educational outreach program, such as your Web site, print materials, or online course?
- What is your budget?
- Do you need to create a schedule that corresponds to the broadcast? To when content is taught? To when school is in session?



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## *Formats: Video: Teacher Development Video Production & Distribution*

### Design the Project

To determine the project's scope, consider the following questions:

- Is the goal to capture a lot of classroom examples or dig deeply into a few examples? What are the important elements?
- How do students grapple with content, work with each other, and interact with the teacher and the materials?
- How does the lesson develop?
- Is dual-language learning an issue?
- What kinds of rubrics are used?
- How is learning assessed?
- What is the culture of the school community? How do you capture it?

Answers to these questions will help you determine the length of your videos, amount of animation, graphics, use of experts, narration, and the number of visits you will make to a site. Then, with the project scope in mind, you can create your budget and timeline.



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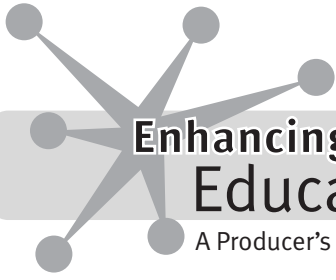
## ➤ *Formats: Video: Teacher Development Video Production & Distribution*

### Assemble the Team

At this stage, you're ready to assemble the project team. As with any production team, you should look for people who can work well together, complement each other's strengths, and have the requisite skills to carry out their jobs. When choosing staff, make sure to hire people who are sensitive to the issues of working in schools.

This is also the stage at which to recruit advisors, develop their contracts, and hold an advisory board meeting. The board should include a cross section of content experts and practitioners. Clearly define their roles and responsibilities, especially how they can best work with the production team throughout the project. Create written expectations about the review process, such as timelines for reviewing, specific kinds of questions that will be asked, and examples of helpful vs. not helpful comments.

Another aspect of this stage is to provide staff development opportunities for the staff to get steeped in the content. You may want to schedule "content school" led by an expert and/or practitioner for the project staff.



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### Pre-Production

During pre-production, develop criteria for selecting a classroom or field locations to use when you capture the lesson for videotape. Revisit your earlier question: What are you trying to capture? Then develop a process for gathering data from sites. Plan to collect data on many more sites than you will actually videotape.

Also, develop a protocol for how you will approach and communicate with the school representatives, such as the superintendent's office, the principal, teachers, and parents.

Next, survey the sites, and review survey tapes with advisors against their list of site selection criteria.

Once the sites are selected, work closely with the teachers to identify what they are already doing, their strengths, and the needs of your project. Select the dates, times, and goals of your visits for videotaping. All along, remember to get clearances—from parents, teachers, the school district office, etc. In preparation for the shoot days, talk with each teacher to clarify what she will be teaching and how she expects the lesson to progress. Knowing this information will allow you to keep interruptions to a minimum.

Coordinate with others working on the educational outreach components of your project, such as Web site or print producers, to determine the artifacts they will need. For example, they may want materials such as student work, teacher-developed materials, textbooks, posters, or assessment instruments, to incorporate into their educational outreach components.



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## *Formats: Video: Teacher Development Video Production & Distribution*

### Production

Once you have the treatment (lesson plan) signed off by your advisors, you are ready to begin production. This is really no different from any video production, except that school is in session while you are shooting, so keep the following tips in mind:

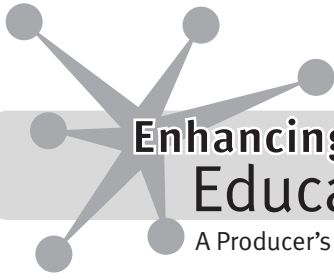
- Try to be unobtrusive by setting up before classes start.
- Identify and use a staging area away from classrooms and busy hallways.
- Avoid hallways when classes are changing.
- Try to negotiate the shooting day with the school schedule.
- Schools might also present particular logistical considerations, such as limited power supply, lack of elevators, limited parking, etc.

The general process is really no different from the video production with which you are already well acquainted. But if you expect to stream these videos on the Web, consult a Web producer on the particulars of producing video for the Web. You should also identify your graphic needs and meet with your designer so the graphics will be ready when you need them for post-production.

Determine the supporting voices you will need, such as teachers, students, or expert reflections or commentary. You will want interviewees who can speak succinctly and at a level appropriate to your audience. They may have to carry difficult pedagogical content, so the questions you ask, in some cases, may need to be very direct and almost didactic. It is very important for the teacher to define his/her goals.

One final note about the production stage: If you bring an advisor with you to the taping, it is important to clearly define his/her role ahead of time. The onsite advisor should be someone who can easily relate to teachers. Build time into the shoot schedule for advisor input.





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## *Formats: Video: Teacher Development Video Production & Distribution*

### Post-Production

Post-production, like production, is no different for teacher professional development videos than for other programs. It is always helpful to do a paper cut, assemble materials into a rough cut, and have the rough cut reviewed by advisors. Ask advisors to respond to the tape in writing. They should view the rough cut for clarity, educational rigor, accuracy, and usefulness to the target audience. They may not always agree. Part of your job is to balance advisor responses. You may also want to convene a series of focus groups to review the videos.

At this stage, answers to the following kinds of questions will help you further refine your videos:

- Do you need narration?
- How much background information (context) on the school, students, and teacher(s) do you need to provide your audience?
- How much do you let the viewer observe vs. how much do you tell the viewer?
- If you hire a narrator, what is the appropriate tone?
- What are the technical considerations? For example, if you are using an Avid system, how much of the footage do you digitize?
- What resources did the teacher use that you will need to clear?
- What will your video open be?
- Will you have theme music?

As a final check, advisors should review the fine cut prior to narration record, music, online, and mix. This review is meant to catch any last-minute glitches. Finalize your packaging elements, as you would with any other production.



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## *Formats: Video: Teacher Development Video Production & Distribution*

### Distribution

Distribution varies from project to project and organization to organization. Be aware of all the materials that comprise promotion and outreach for the broadcast and educational outreach. Provide written descriptions for promotional use to distributors and publicity personnel. Make sure that you provide an adequate inventory of tapes for screenings and promotion. Help the distribution effort by suggesting national organizations, conferences, and publications that may be interested in the videos. Professional organizations like the National Staff Development Council (NSDC) and National Science Teachers Association (NSTA), National Council of Teachers of Math (NCTM), and National Council for the Social Studies are often looking for content to distribute.

### Shut Down

Shut down differs from organization to organization. Usually the final activities include completing cue sheets and tying up the loose ends for licensing rights releases.

As a courtesy, provide copies of the videos to advisors, on-camera talent, and other participants.



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## *Formats: Video*

### Enhanced DVD Production & Distribution

An enhanced DVD production team generally consists of a producer, writer, designer, production assistant, copyeditor, and programmer (to do DVD "authoring"). Production deadlines may be several months before broadcast to allow time for authoring, testing, manufacturing, and delivery.

Your educational goals, budget, and production schedule will influence the decisions you make about DVD enhancements. Here are some general considerations to take into account:

- What kind of enhancements might serve the educational goals of your project? Typical DVD enhancements include:
  - "Bonus" video, such as interviews with the producer or director, or a behind-the-scenes look at the film's production. These extra video features may repurpose unused footage from the main program or be produced specifically for the DVD project
  - Chapterized access to segments of the program that relate to a particular theme
  - Text or graphic content from related interactive features or print materials

Remember, anything on a DVD will have to be viewable as a television, not a computer, experience. Note that these materials may require additional clearances for DVD use.

- How many discs will your set include? Many factors influence this decision: the length of the program, the kind of enhancements you envision, formatting issues, budget. If the program itself is very long, you might consider breaking it into parts across discs, with enhancements on each disc, or perhaps feature the full program on one disc with a second disc of bonus materials.
- How can you make your disc easy to navigate? Remember, your audience will navigate the interface by remote control arrows, not a mouse. Consider user-testing a paper or Flash prototype to ensure that the navigational path is clear and intuitive and all features are appropriately named.
- Will your disc work for people who are deaf, hard-of-hearing, blind, or visually impaired? The DVD format supports captioning, additional audio track for description, and audible menus.



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### Enhanced DVD Production & Distribution (cont'd)

- Who will encode the video programs? This currently involves digitizing the video and compressing it in the MPEG2 digital video format. Your post-production facility may or may not have this capability.
- What quality audio will you include? DVDs have many more audio options than standard video. Inquire about how the program itself will be encoded, and be sure that all enhancements are produced similarly.
- Who will author the discs? Will you work with an in-house developer or an outside production company? When you make this decision, bear in mind that the quality assurance testing component of a DVD project is an important, demanding, repetitive process. Industry standards are still in development; behavior still varies greatly across hardware, depending on age and manufacturer. If you're working with an outside production house, take their location into account, inquire about their review process, and adjust your schedule based on shipping times as required.
- What educational information, such as teacher guide excerpts or questions for classroom discussion, might you include in the DVD packaging materials?

For more detailed information on DVD production, you might consult the DVD Demystified site (<http://www.dvddemystified.com/dvdfaq.html>).

## *Formats: Video*

### Video Production for the Web

#### **Shooting Video for the Web**

For both editorial and technical reasons, video shot for the Web should be simpler than conventional video intended for television broadcast. Shots should be slower than conventional video; for example, pushes and pulls should be gradual. When a set is dressed, it should be done simply. Busy background and complex lighting should be avoided. A good rule of thumb is to think of the computer compression protocol, not the human eye, as the first audience for the video. Range of color, speed of motion, complexity of image all require more work in the compression phase and risk compromising the end product.

#### **Editing Video for the Web**

When you are editing video for inclusion on the Web, avoid fast cuts, complex edits, or lower-third material, which will be hard to read. You should, however, provide both captions and transcripts for all video included on a site.

#### **Production Process**

Work this out in advance, as video and Web production process and terminology differ. Before any real shooting takes place, it is useful to do a "test flight" of how the video will be produced and, ultimately, served on the site. This is to ensure that all of the steps, formats, equipment, and personnel required are anticipated. You can pre-test the video on paper or with an actual test shoot. At a minimum, you and all relevant personnel should consider the following:

- What is to be shot and why?
- In what size window will the video be displayed on screen?
- In what format will the video be acquired?
- What naming conventions will be established?
- How will the video be stored, logged, reviewed, and edited?
- How will chapter points be determined and recorded?
- How will the edited video be provided to the Web team?
- For what formats and bit rates will the video be encoded (QuickTime, Real, Windows Media Player, high, medium, or low bandwidth)?
- How will captioning, transcripts, or other enhanced features be produced and displayed to the users?
- Will the video be used in any other way (for stills, print, etc.)?
- How will the video be served?
- How will the video rights be acquired and recorded?
- How will the video be archived?



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### Video Production for the Web (cont'd)

During the test flight, these and other steps may be charted. Use a who/what/when/where grid during your preparations to make sure you understand and have accounted for all of these tasks.

Finally, Web video is time-consuming to encode, particularly if you provide it in multiple formats and multiple bit rates. A rule of thumb is that every minute of final video will require 20 minutes of encoding time. This is exclusive of captioning or any other production needed on the encoded video, and of testing/quality assurance, which also takes time.

## *Formats: Video*

### Video Budgeting

The general rules-of-thumb for budgeting educational outreach videos apply to any kind of video production:

- Budget educational outreach videos as you would any other professional production; strive for high quality.
- Define and develop the concept, the production process, and the production team roles as precisely as you can.
- To keep a budget on track, target specific formal financial review dates from the outset to see where the project needs to go and if there is money for what you think the project needs. Changes to the project will alter your budget. For example, let's say your budget is \$90K, and as the production phase winds down, you discover you need to add a couple of shoot days. The money for your extra shoot days will have to come from some other part of the budget or some other source, so build in a contingency.
- Be aware of underlying rights of broadcast material. These may be an additional and significant cost in your budget. Also, budget the time necessary for the three review loops and realistic response to each review.
- Think ahead about clearing rights for educational outreach elements when you budget your broadcast project. Clear for as many derivatives (educational outreach, reversioning, broadcast, companion Web sites, etc.) as you can up front. Rates are often better for multiple uses, and clearing "add-ons" rights later tends to be expensive.
- Structure your talent contracts and advisor agreements for derivatives as broadly as possible.

There are some particulars to keep in mind for budgeting different types of educational outreach videos:

#### **Budgeting Classroom Videos**

- Think of reversioned projects as small productions. All of the elements of a broadcast production are part of the reversioning process: scripting, pre-production, shooting, narrating, acquiring footage, editing, and post-production.



## *Formats: Video*

### Video Budgeting (cont'd)

- A common misconception about reversioned projects is that they can be mere lifts from a broadcast. A good reversioned project cannot.

#### **Budgeting Teacher Professional Development Videos**

- Identifying classrooms always takes longer than you think. Budget enough time and money for this process.
- Two or three cameras are more expensive, but often more efficient and effective than one.
- Don't skimp on audio. Without professional audible audio, you won't have a show. Try to use a wireless microphone on the teacher, for example, so she/he can move around the room. Prepare the students so they know to wait for the boom mike to arrive before they talk, etc.
- Build edit time for review and revision. Professional development video projects work best when there is plenty of review time and input from advisors.