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**CHRIS BOEBEL:** So anyway, I'm Chris Boebel and, as I said, I'm the Media Development Director at the Office of Digital Learning, which is what the K-12 video project is part of. As well as MITx, and OCW, and a bunch of other initiatives on campus, I also teach a documentary video class-- a science documentary class-- here at MIT that Elizabeth took a few years ago.

And what I'm going to talk about is storytelling. And specifically, visual storytelling, and how that can relate-- or hopefully will relate-- to the work you do in this class and to online video in general. I'm going to start out just by taking maybe-- I don't know if it's exception-- but just having a slightly different perspective than something that Elizabeth said.

I would say that almost all videos that are successful, almost all viral videos, have some element of a story to them. Even a five second Vine video. Just about everything. And I actually was thinking about that, and I went looking for what is probably one of the dumbest viral videos to come out recently. Just a few days ago. You may have seen it.

This is a fan at Ohio State who was caught on the Jumbotron basically scratching her boyfriend's head and then picking her nose. And this thing got-- I just, it's ridiculous how much play this got in about a 12 hour, 20 hour period. Very ephemeral, you know. It's absolutely not going to last. It's not going to change anyone's life, but the reason it took off is that it has a story. And the story was created and invented by the people who watched it. You know, it's not really-- yeah, go ahead.

**AUDIENCE:** I thought the point of that video-- I saw the same thing that she was with-- that's like the guy she was seeing on the side--

**CHRIS BOEBEL:** Exactly.

**AUDIENCE:** --that's not her boyfriend.

**CHRIS BOEBEL:** That's actually not true. That was the story that was completely created by people who watched it. They've been together for a long time, and she didn't even know she was on the

Jumbotron actually, apparently. But it just happens to be this kind of little moment that tells a story, and because it told a story that people related to, suddenly it turned into a giant thing. One thing that's hilarious is somebody actually reversed it, so she picks her nose and then sort of leaves a deposit on his neck, and that became another story.

**AUDIENCE:** There's something disturbing about her facial expression.

**CHRIS BOEBEL:** Yeah exactly. She looks guilty. She looks guilty, and that's why that's part of the story. Like, oh my god, I've been caught rubbing his neck. So anyway, I think this has got to be the dumbest viral video of all time, but I think it's also a story. Never think you're not telling a story.

If you forget everything else that I say in the next 30, 40 minutes, I would remember this. There's some element of a story in what you do. I don't care if you're making an FDA approval video, as one of you mentioned you are interested in doing-- something I've actually done personally. I don't care if you're making a 30 second TV commercial, a 10 second TV commercial, a 12 minute physics demonstration. There is an element of story to it. And it may not be the sort of conventional, traditional, "television" story that we would see on an HBO show. It may not be a Hollywood movie story. But there is an element of story, and one of the things that you want to do here is find what those elements are.

Now, let's unpack that a little bit. Let's talk about what is the story, and how might it relate to what you're actually going to be doing here. And then secondly, we'll also talk about what are some of the specific techniques of visual storytelling that you might be able to employ.

So first of all, what is a story? Full confession. I went to film school and I worked in that sort of ancient medium that Elizabeth talked to, television and film. And the classic and traditional way of talking about a story is that it's got these things. It's got a protagonist, a hero. It's got an inciting incident. It's got something that happens that sets everything in motion. Then there are barriers along the way, problems that the protagonist has to overcome, and then there's a resolution.

So you do that in a kind of traditional, classic way, and you end up with connections, or worse, right? It's not going to work, obviously, in the genre that you're talking about. Another way of looking at this traditional way is that you've got act one, which is the set up, you've got act two, the barriers, the plot. You've got act three, the resolution. The three-act structure is kind of the classic screenwriter mode that you see over and over again.

So how does that relate to what we're actually doing? Well, this is going to be somewhat repetitive to some of the things Elizabeth talked about. First thing, clearly, that you need to do in this very short form is engage your audience immediately. I mean you've got maybe, like, five, six seconds, maybe eight or ten, to engage them on some level. That's the beginning of your story. That's the inciting incident.

And then this is something that I find very interesting, and you know when I talk about web video, this is something that is a paradox, that I think is really, really true. You want to surprise your audience, while also showing them exactly what they want to see. And this can be really a challenge. Surprise your audience. In other words, you want to take them somewhere, show them something that's fresh, that's new, that they haven't seen before-- something Elizabeth just mentioned. But at the same time, you really want to-- you need to sort of feed into their expectations, because otherwise they're going to shut down.

And that is why a lot of the YouTube channels, and a lot of the people who do this work for a living, have a genre that they stick to. Smarter Every Day, ASAP, Vsauce. You know-- hey, I always jump up from beneath the frame. That's my thing, you know? So you're showing people what they want. At the same time, you're surprising them and taking them somewhere they've never been. And it's kind of a paradox, but I think it's kind of a key paradox.

And then the last thing is, leave your audience wanting more. Shortness, brevity, is a very important thing, particularly for this. I mean, this is a series, Science Out Loud. The nicest thing for Elizabeth would be if somebody said, oh my god, that was so great. Click, next one.

Now if you think about it, this is very similar to a three-act structure, it's just a really compressed three-act structure. Engage your audience-- the inciting incident. Surprise your audience, and also showing them what they want to see. This is sort of the development, which might only take 30 seconds. And then, leave your audience wanting more-- some kind of resolution that takes them to the next thing.

The other element of all of this that's very important to just briefly mention-- and Elizabeth mentioned this earlier-- is that in online video, just as we saw with the Ohio State clip, a lot of the storytelling happens outside the frame of your video. You want to, basically, be able to leverage that. So people's expectations before they see your video play into how they perceive your story, their experience during, and then what they do after. All of those are part of the story, as well.

So, you know, the naked celebrity picture-- well, that's kind of a story too, because you have an experience of Brad Pitt in one context, and then suddenly, wow, is that his butt? That's a story. Not a very good one, necessarily, but.

I also want to talk a little bit about protagonist. I started out talking about one of the things you need is a protagonist. Well, on one level, the protagonist is you, if you are the host of this video. And if you think about the sort of videos Elizabeth showed, all of them, pretty much on one level or another, have a protagonist. It's a very strong character, a very strong protagonist, whether it's crazy Russian science guy, or the Smarter Every Day sort of down-home but super-smart science guy, or Vsauce. Love him or hate him, he's a very strong character.

So having a protagonist is really, really, really important. That protects is going to be you in this particular instance, but there's also another protagonist that we should talk about, and that's your audience. Because what you're doing is taking people on a journey through this learning, and some of the barriers that are going to be thrown up are barriers to their understanding.

Think about Smarter Every Day and the cat clip. The whole thing is structured around, oh hey, now we know, it's the tail. Oh-- no it's not. No it's not, it's something else. And that happens two or three times over the course of the clip. That is, basically, a story. That's storytelling. There's a barrier to understanding-- oh, we think we've solved it-- no, we haven't. It's like a car chase. It's like breaking into a safe. It's like a lot of things that you would see in a conventional movie.

So there are actually kind of-- in some ways, you can think of it as a dual protagonist. You, the trusted guide, are taking your buddy, the audience, on this journey. On a story. To return to what I said earlier, I think of web videos-- great web videos are like great snack food. They're very familiar, yet they're also sort of spicy and enticing, and after you have one you just want to have another. And then you have the second one, and you just think, maybe I should have a third. Hopefully the videos you make won't leave people with heartburn, which is what happens when you eat too many of these, but that is, to me, kind of an interesting analogy. And if *Interstellar*, or some three hour opus that you pay \$10 to sit in the dark to watch, is a seven course meal at a four star restaurant, you're making something that's just got to be really tasty and delightful for just a moment, and leave people wanting another one. Just exactly like that, but somehow subtly different, too.

I'm not going to show any video, because I'm going to try to just talk about the videos you've already seen, rather than show. So let's unpack stories just a little bit more. I've made the case that you're telling a story, and you should never forget that you're telling a story when you do this kind of work. Well, what are stories actually built on? There's a whole list of things, and Elizabeth has mentioned a couple of them.

Emotion. Now, I'm not necessarily talking about *Gone With the Wind* emotion, but certainly curiosity, identification, humor, which is an emotion. All of those things really are going to play into what you do and are very, very important.

Character. We've talked about character. Conflict. Again, not necessarily high drama, but there's often some kind of conflict. The conflict may be, oh, you thought the cat was using his tail to spin, that's not the case. But some kind of conflict, barriers to understanding, I think are very, very important.

Spectacle. Again, you're not going to do *Interstellar*, you're not going to spend \$100 million on CGI, you're not going to do *The Hobbit*. But often-- it's another word for taking people a place they've never been. Maybe you can get into the nuclear reactor here.

Intellectual engagement. I think that's kind of the obvious one, the easy one that we can all think about when we're talking about educational videos. In and of itself, I don't think it's enough, but it's certainly an important one. And there are plenty of videos out there-- plenty of lecture videos-- that basically just depend on that.

And then the last two are two of my favorite ones. The unfamiliar becoming familiar, which is kind of the classic science video. But the familiar becoming unfamiliar, as well. In other words, you think you know farts, but you don't, despite all you know about farts. And in one context, you don't know that much, and here's why.

So I think both of those are really interesting structures for you to use to hang a story on. Again, the first one, obviously. I'm going to take this thing that you don't understand, and I'm going to make it completely-- I'm going to demystify it. But a lot of science education is also about kind of taking something that seems really simple and showing just how complex, and intriguing, and unfamiliar it really is.

Now let's talk a little bit about visual storytelling, because that's obviously what you want to do

here. Lecture videos-- again, intellectual engagement certainly one way to go. If you use OCW, as a couple of you mentioned, you know very well that lecture videos can be effective. And in fact, lectures can be great stories. We all have had experiences of people who are great lecturers, who tell great stories. And those stories may or may not be visual, but I think there's certain things that distinguish visual storytelling that are worth talking about.

And this is a concept that I often use to just kind of get into to this whole idea, which Elizabeth will probably remember. This is what we sometimes call the plastic elements of video or a film. And sometimes I use film and video indistinguishably because-- it betrays my age-- video is film, film is video now, at this point.

What I mean by the plastic elements of video are, just simply, all of the things that we have control over when we make a video. And that could be the casting of the actors, it could be where we put the camera-- that's kind of the obvious one-- the lighting, there's an endless list of things. And, in fact, here are just a few of them. Again, most people would list the camera right away, since that's kind of the "paint brush", quote unquote. The lighting, how we choose to light something, or whether we're actually literally using lights or just using the sun or existing room lights. Editing, sound, music, characters, the actors, locations, props, costumes, the list is really endless.

It goes back to the decisions. Elizabeth mentioned decision-making. All of these things are things you need to think about and you can control. And they can work for you, or they can work against you. Think about in Smarter Every Day, props. The cat itself, of course, is a great prop. Think about the stuffed cat at the beginning, which is that sort of fun moment of, oh my god, he's really going to drop a real cat. That was a choice. That was a choice, to add that stuffed cat, and it sort of made a fun little moment that brought you in for just a second. Locations. Very, very important. I mean, the sort of lowest common denominator location is a chalk board or a white board for something like an educational video, but there are all sorts of other possibilities. Costumes. Again, doesn't have to be clown costumes or silly hats, or things like that-- although it could be. But all of the other things that you can, or might be able to, bring to your video by making these choices. Camera, of course, is a crucial one, and I'm going to unpack that just a little bit as well, although we could spend hours talking about film grammar.

So I'm going to just go through a few other tips to think about. The first one-- and this is kind of like the bible of visual storytelling-- show, don't tell. And it sounds kind of obvious, but it isn't

necessarily that easy to do. If we think about the sleep video, I think one of the things that I responded to in that video, that I thought could have been better, is that it's actually not showing us much. It's telling us. Elizabeth talked about the fact that the voiceover just read, like, a web article. Like, a sort of "10 Facts About Sleep", and that's basically the case. I mean, there is some really cool animation, and the animation is fun, and it helps, and it definitely supports the words, but together, it's really just this thing-- you know, I could have listened to it on my iPod. I could have listen to it in my car. The visuals helped a little bit, but it didn't really add anything to it.

The other way to do it, of course, is Smarter Every Day. Which again, you may or may not have liked that. You may have thought that it dragged on too long, and I agree with that certainly. I think there were things that could've been improved, but there's nothing like dropping a cat, and showing it in super-slow motion, to get my attention. So I think that was a great example of showing something.

This is just something that I wanted to mention. Having worked in television, there was a saying that went around a lot when people were talking about a script, which was, "Oh, this is kind of a wolfpack deal." And what was meant by that-- this was sort of an infamous situation from, I don't know, God knows when. Somebody who's scripting a nature documentary had written this long, very beautiful, kind of flowery narration about "the ravenous pack, lopped across the frozen tundra in search of its prey"-- blah blah blah. Like two pages of sort of beautiful prose, and at some point in the editing process, somebody was like, because they had that. They didn't need to say all that stuff. This picture was worth endless amounts of stuff.

So avoid your pack moments. If you don't need to say something, you can show it. There may be plenty of things to say, and I'm not saying that it should be all visual, but you don't need to say certain things if you're already showing those things. Use your language, use your words, which are very important to do other things. To reinforce, to bring your own perspective, to embellish the story, to bring people into your own mind, your own character. You don't need to say the obvious stuff. You don't need to do the wolfpack description. So that's show, don't tell.

The other thing that's just sort of a fundamental tip is, video loves motion. Moving pictures. And Josh is going to talk about storyboarding and animation later in the week. Clearly, animated pictures, moving things, things that reveal one thing or another in animation, are really important. Same with cameras. If you look at Science Out Loud, some of the other episodes, you'll see some really terrific moves with the camera, dollies. All of those things add

visual interest and improve your storytelling.

Locking down a tripod can also be very effective, but again, think of it as a plastic element that you can control. Don't do it just because you didn't think about it, do it after thinking about what you're doing by either moving or not moving. So the camera loves motion.

This is kind of the corollary to that. And I don't know if people have a lot of shooting experience or not, and this isn't really strictly a class on the production techniques, but this is something I really wanted to mention. Motion for the sake of motion is also not terrific, not fantastic. Hosing down the room is that tendency that your uncle or your grandfather has when you give them a camera to just do this all the time. And you're going, oh, hey, I'm getting everything. I'm just getting everything here. This is fantastic. And in fact, what you get is absolutely nothing, because there's no intentionality. There's no sort of thought to what's happening with the camera. All you're doing is making everybody seasick and really pissed that you're not focusing on anything.

Motion is actually-- I think a better way to talk about it, in story terms, is reveals. When you're moving things, you're revealing the next story element. So if I pan from our camera person over to Josh, and Josh is looking over at the camera person, is going like, why is he doing what he's doing? That's a story element. Whereas if I do this, I'm not telling a story at all. Same with animation, and I'm sure Josh thinks about this night and day. I mean, how do you reveal your next thing from the thing you've got? How you go from this idea to that idea? How do you reveal using motion? Because it is moving pictures. So that's maybe a more pointed way of talking about motion in story terms. Revealing things.

I'm going to talk just a little tiny bit about grammar, and framing, and stuff like that, very quickly. This is just a still from an interview that I did a couple of years ago here at MIT. Joel Dawson, a professor here. And just a couple of things to just point out about it in terms of, sort of, just the way it's visually set up.

First of all, you'll see that the background and the foreground are very distinct. We shot it so that the background is completely out of focus, and that's so that you know what to focus on. That's the other thing. So we talked about reveal. The other sort of key crucial thing to think about when you're storyboarding, or creating animation, or directing is, how do you get people to look at what you want them to look at in the frame? One way is to foreground the foreground and let the background drop off, either through lighting or through the focus, in this



case. Or through art direction-- there are all sorts of ways to do it, but doing it is really important.

The other thing is that this is a close up. Sounds kind of simple, sounds kind of obvious, but it's making a choice to go in and to find out about this guy, this person. It's not about the lab. It's not just sort of this wishy-washy, moving shot of him wandering around his lab doing something. We want to hear what this person is saying, what he's thinking, right now.

Just another quick thing to just talk about. When you're shooting in this particular format, 16x9, there are a couple of really powerful parts of the frame that you can use, whether you're doing animation or shooting, and they tend to be where the thirds cross each other. So that's a very powerful part of the frame. That's also powerful. These are powerful in slightly different ways. And you'll see his eyes, like, dead-on in the crosshairs. If we're people who read left to right, in sort of the Euro, European tradition of writing, this tends to be the most powerful point, because we read frames left to right, because we're used to our eyes used to going that way. Not saying you have to follow this rule. You can break it, but it's just an interesting thing for you to know. When you're framing things, when you're creating animations, there's a tendency when you start to think oh, dead-center will be really great. But it's actually not the case. A little off-center and in sort of the thirds of the frame is a good way to go.

The other thing just to talk about quickly, in terms of making choices, think about-- and this will really come up when you do your storyboarding exercises with Josh-- think about what the kinds of shots you choose are doing. Wide shots say one thing, close-ups say other. Starting with a wide shot and coming in, that's a reveal of something. But starting in a close-up and going wide could also be a reveal of something else. I think we can imagine what kinds of stories might come out of these two frames, and how the story might be different if we started here and went here, and if we started here and came out. So make choices, and think about what your choices are actually going to do in terms of the story.

Another example of that. Camera angles framing. Low angles looking up, that gives you a certain feeling, it gives you a certain kind of power. A sort of master of my domain feel. The opposite, looking down, kind of the opposite. These are just two examples, and I'm not going to go on and on and on and talk about others, although we may get into it later in the week. The point is that the camera is one of the key plastic elements that you have at your disposal to tell your story. And the medium shot, just kind of center frame, doing your thing, is kind of the fall-back. You don't have to do that. There are any number of other choices you can make.

And when you start to go and choose locations, and choose props, and choose elements like that, how you shoot those things and how you shoot your characters becomes very, very, very important.

And then the last thing that I'm going to talk about-- and I'm kind of racing through this because I want to just make sure we have time for questions and stuff-- I'm just going to be a little counter-intuitive. We've been talking about visual storytelling, but just don't short change your sound. Sound is often more important than the picture. And one of the other things that I think-- Elizabeth talked a little bit about production technique, and quote unquote "bad technique" or rough videos, versus slicker TV-style videos. One thing that's very, very, very hard to overcome is poor sound. And even if your video is a little out of focus and it's shaky, if it's really compelling, that's fine, as long as the sound is good. But as soon as the sound is bad and hard to listen to, you're going to have a really hard time pulling people back. So even though this is mostly about visual storytelling, I just want to point that out, that that doesn't mean that the sound is not important. In fact, the sound is extraordinarily important. And it's both a technical thing but also a plastic element that you can use. Whether it's music, or sound effects, or the way you treat dialogue, all of those things are really important.

So just to contextualize this a little bit, I know that Elizabeth's co-instructor, George, is going to be doing a scripting workshop with you, and he's going to be focusing a lot on finding your voice. Which is really, really important, and goes back to the idea of character, and the protagonist, and authenticity, and a lot of the things Elizabeth was talking about. But as you do that, as you do all of those things, remember that ultimately you're telling a visual story. And that once you, sort of, hone your story, hone your voice, you want to put that in a visual context. You don't have to have the words carry everything. And in fact, the words may end up doing other things than conveying the core of what you need to do.

So that's it. I kind of tried to race through it, because I didn't want to keep people for too long. First of all, any questions or thoughts?

**AUDIENCE:** I just had a thought, just a question. It was interesting, you mentioned that the-- I'm sorry, the name's escaping me-- the whiteboard video that you were critiquing earlier--

**PROFESSOR:** ASAP Science.

**CHRIS BOEBEL:** Oh, the ASAP Science, yeah. I liked it, I didn't mean to dump on it.

**AUDIENCE:** No, I think it was really important and a really interesting point. So then I was thinking, okay, what would have been more effective? How could that have been turned into some sort of more storytelling exercise, or something that was more engaging? And I think it would be an interesting question, just, how could that be better? And my feeling was, would it be better to do something where you actually had someone not sleep for overnight, or for two days--

**CHRIS BOEBEL:** Well I think that's-- yeah, no, go ahead, yeah.

**AUDIENCE:** Something like *Supersize Me*, where you have someone actually engaged in this thing, and it's more experiential, as opposed to being didactic I guess would be the distinction there. So that was just one idea.

**CHRIS BOEBEL:** I think that's a really good point. I mean, that's kind of the Smarter Every Day approach, which I respond to personally better. On the other hand I think that there are graphics that tell amazing stories. I think data visualizations that I've seen recently, in particular, just can be extraordinary storytelling devices. So it's not so much that I think that it was animated, and somehow that was not as effective. It's that I think the process was write script, and then come up with stuff to fill in space. So yeah, I personally respond more to the ones that are more experiential, where you have people-- that may also be supported by animation-- but there is someone taking you through the experience. But I do think that there are lots and lots of ways to tell really, really dynamic and really interesting, good stories with animation.

**AUDIENCE:** That's good to hear.

**CHRIS BOEBEL:** Oh no, totally. And you know, we've all been there. I've been there, too. You have something that you have to make come alive. I think they did a great job of making it come alive. I think the animation was really effective. It's just that I think the approach was to write a script without necessarily thinking about the visual medium, and then to take the visuals and layer them on top as a separate part of the process.

So anybody else have any-- I mean again, I know I kind of raced through it. How many people-- I mean, do you have video experience? How many people have some kind of video experience? That's always a really good question to ask. No? Nobody? Well that's cool. That's great.

**AUDIENCE:** You have bad habits.

**PROFESSOR:** Absolutely. Absolutely.

I think, just to go back a little bit, I think that whole relationship between web video and TV is a really interesting one. It's a really interesting one to unpack, because again, the sort of conventional storytelling techniques that we're used to seeing on TV are not going to be effective for all sorts of reasons. It's also worth mentioning that of course TV has changed too, radically, since connections. *Game of Thrones* doesn't open that way, two minutes of somebody wandering around a house. But at the same time, it is a different genre, and really a crucial thing is the thing that Elizabeth alluded to, and I mentioned at the beginning, that I think you're telling a story, but your story extends beyond the bounds of your video, or can extend beyond the bounds of your video. It basically can begin with what people's preconceptions are before they start watching, and it continues on after the video is done. And I think that is a really crucial difference.

One suggestion that I would make, whenever you write something this week-- and you're going to be writing treatments, and pitches, and scripts-- think about it in purely visual terms. One of the early exercises that I had to do, when I was in grad school, were silent films, and films or versions of scripts that had no dialogue, had no sound at all. And I think that's-- I'm not saying that you should do that as a technique in your finished piece, but it's a way of bringing up stuff that you can then apply to your video later. So if you were going to do something that was purely visual, that was going to convey what wanted to convey, how would you do it? And what might you create, or invent, or think about, through that process, that you can then use to inform your script. So just a way of thinking about what you're going to be doing this week.