ONLINE SHEDMEETINGS: EXPERIENCES PRODUCING VIDEO WEBCASTS THAT SHOWCASE SUGAR INDUSTRY BEST PRACTICE

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Abstract

CAN THE *YouTube* phenomenon be replicated in next generation extension? There is a groundswell of interest within the Australian sugar industry in using video webcasting as an extension tool, and rightly so; advances in technology are already transforming the adult education and training landscape. With video webcasting, growers have a unique opportunity to learn first-hand from other growers' experiences. Nevertheless, it is easy to underestimate what is involved. Video-sharing websites like *YouTube* have created a misplaced perception that any old raw footage will do. Yet audiences have a lifetime of experience watching professionally produced films and television shows, so while they may not know how professional-looking programs are produced, they easily detect the telltale signs of amateurs. I argue that extension providers need to invest in the right equipment and use the right techniques, or risk devaluing this significant technology as an extension tool. There is presently no training resource available to guide content developed for extension, and no standard by which to assess the quality of material being produced. Therefore, in this paper I present a guide to video webcasting for e-extension, reflecting personal experience and insights gleaned from creating over 60 video clips for the Shedmeeting website. These video clips were designed to highlight grower experiences, research recommendations, and the economic benefits of adopting sugar industry best practices.

Introduction

It is commonly accepted that growers learn best from the experiences of other growers, so a lot of resources and effort are put into organising bus trips, field days and shed meetings, so growers can interact and learn from each other. However, from an industry perspective, only limited numbers of growers can attend. There is also an issue of social justice.

Innovative growers championed by the cane industry are called upon to provide access to their farms for bus trips, field days and shed meetings. As such, they shoulder a disproportionate burden of voluntary responsibility for encouraging best-practice adoption by our industry. Video webcasts provide an attractive alternative for sharing grower experiences with a broader audience.

Probably one of the most well known video webcasts in Australian agriculture is the Cotton Seed Distributors *Web on Wednesdays* (Cotton Seed Distributors, 2008). Yet, despite being well regarded, its video clips and web site could be improved (Beaudin and Quick, 1996; Koyani *et al*., 2003). When video is placed on a website, the website's navigation structure and page organisation supplants that of the video. The passive viewing style that is typical when watching an instructional video is replaced with an active, goal-based interaction style where the user previews and abandons video clips as they search for content of interest. As a result, the design of video for webcasting is different to instructional video; the clips need to be short and focused, each one communicating a single idea. They also need to be organised on the website so they can be readily found, using multiple browsable categories and links to related content.

The techniques that follow were used to videotape clips for the Shedmeeting website (Thomas, 2008). They are adapted from established industry practice (Zettl, 2007; Mascelli, 1998) and field-tested. My justification for being prescriptive is to give extension practitioners interested in video webcasting an overview of the range and depth of techniques that go into producing professional looking material. To dispel any misapprehension that all you need are talking heads videotaped with a cheap camcorder, I pose a question to the reader – *if a story isn't told visually, why tell it with video?* – a simple web page or email would be quicker and cheaper.

Invest in the right equipment

My primary goal in selection of video equipment was to obtain quality audio recordings; everything else was secondary. Clean voice recordings require an external microphone and a video camcorder that has somewhere to connect it and adjust the level (Figure 1, left). One thing is certain; using a camcorder's built-in microphone is unacceptable. This results in poor audio quality that *'works against sharing the video with others'* (Polson, 1999). Given the audiences' experiences watching professionally produced shows, the artefacts of poor audio recordings will not escape their attention. '*Nothing screams amateur more than having bad audio in your production'* (Green *et al*., 2008).

Fig. 1—I use a camcorder with external microphone inputs (left), and use a wireless lapel microphone for recording grower conversations (right).

Clean voice recordings can only be obtained by placing a microphone within 30 cm of the mouth of the person speaking. This is because sound pressure levels decrease by the

square of the distance they travel, while background noise remains constant; so the closer the microphone is to the source, the better the signal-to-noise ratio. For recording conversations with growers, using a wireless lapel microphone is by far the most convenient and unobtrusive technique I have found. The lapel microphone clips to the subject's shirt collar (Figure 1, right) and the radio transmitter clips on their belt or is placed in their pocket. The receiver mounts on the accessory shoe of the video camcorder. The actual microphone faces away from the subject's mouth to avoid percussives from Ps and Ss. One advantage of the lapel microphone is that, once the levels are set, they seldom need to be adjusted, giving me – the one-man camera crew – the confidence of achieving good audio recordings with the freedom to focus my attention on other things.

Fig. 2—A camera stabiliser (left) that reduces shake in hand-held shots, and an LCD hood (right) that reduces glare by shading the viewfinder are useful pieces of equipment to have.

Two other pieces of equipment worth mentioning are my camera stabiliser (Figure 2 left) and LCD hood (Figure 2 right). The camera stabiliser reduces shake in tracking shots, like running after a cultivator behind a tractor. This stabiliser rig was home-made from mountain bike parts. It has a handy remote, which provides thumb control of the camera's iris (exposure), focus and zoom. The LCD hood attaches to the viewfinder with Velcro® straps. It shades the viewfinder, reducing glare in direct sunlight.

Use the right techniques

Given the high cost of travelling to a location, and the inconvenience of taking time away from my subject for an interview, it is important to make the most of each opportunity. I listen intently to my subject while I interview them, think about what was said, and then spend most of my time acquiring shots to illustrate the dialogue. It is much easier to get the shots I need on the day than come back to videotape something I missed. This requires me to think on my feet, but it also helps to have a few rules of thumb to guide the process.

Scene direction

Provide context: Every clip needs to answer the perennial questions, *who* is talking, *what* are they talking about, *when* did this occur, *where* did it occur and *why* are they doing what they are doing (Wohl, 2008)? My job as the videographer is to plan shot-by-shot coverage that answers each of these questions visually, often several times for each scene.

The *who* is answered by videotaping the person talking. The *what* is answered by sequences that illustrate the key points being discussed. The *when* is usually inferred by clues in the scenes, for instance, by shots of soil preparation, planting, growing or harvesting. The *where* is answered with wide establishing shots of the location where the action is taking place. The *why* is often the most difficult question to answer visually, and I usually leave it up to the dialogue. It draws on the internal decision-making of my subject and may require an extreme close-up of their eyes to convey a thought process followed by a cutaway shot to imply their motivation or a short vignette that provides some of the backstory. The difficulty in attempting to convey the *why* visually occurs when an otherwise obvious motivation is laboured or overstated at which point it becomes clichéd and trite.

Know the subject: Invariably, subjects are nervous and sometimes even withdrawn. My job is to entice their best performance out of them. It all comes down to preparation and the infectiousness of genuine enthusiasm. I make a point to know all I can about each subject, and I display genuine interest in what I am there to videotape. Once they get over their initial nerves, people generally enjoy having an opportunity to talk about their achievements. The more I know as an interviewer, the more in-depth and interesting these conversations are. Polson (1999) reported similar experiences videotaping master dairy farmers. However, in his case, he had a team of extension agents and specialists asking the questions.

Start with a demonstration: Camera fright can generally be avoided if the subject is asked to demonstrate how something works. This takes their mind off the camera, and once a conversation has started, they generally won't be bothered by the camera when it points at them for short periods. Nevertheless, I generally point the camera at something else whenever I start a new line of questions (Figure 3).

Fig. 3—In this case it was impossible to start with a demonstration (left) so I pointed the camera at the irrigator and asked Chris Hesp to describe it; later I trained the video camera on him (right).

Ask for explanations: While the aim is to capture a natural-sounding conversation, in the final edit all my questions need to be removed from the dialogue track. This transforms the dialogue into a personal conversation between the subject and the audience, fundamentally changing the nature of the audience's role from being a passive and invisible third party to being personally engaged. For this to work, each question should elicit an explanation, so the questions become self-evident.

Using non-verbal queues: Verbal acknowledgements make it difficult and sometimes impossible to create a dialogue track that is free from questions. It helps to avoid talking over the top of the subject, and I try to pause momentarily before saying anything. Nevertheless, every verbal acknowledgement creates more work later during editing because each one will need to be trimmed from the dialogue track.

Prioritise illustrative shots: One benefit of the wireless lapel microphone is that it continues to record, regardless of where the video camera is pointing. This allows the interview process to be very fluid. As details come up in the conversation, I videotape them as I go, often pausing the discussion to direct and videotape activities that are of interest.

Videotaping techniques

***Don't rush, its not a camera – the six second rule*:** Quite often when I point the video camera at something my subject is currently talking about, the moment I have that detail in frame, they move on to something else.

This is a common mistake people unfamiliar with a video camcorder make; they treat it like a camera. Shots that are too short are often unusable, so the moment I notice this happening, I take charge and try to slow things down, usually by asking my subject to repeat actions if they have been too hasty.

As a rule of thumb, I try to spend at least six seconds videotaping each shot, and I count these seconds out in my head, particularly when I need to pace shots that transition from one detail to another.

Fig. 4—Video webcasts require the judicious use of close-ups; they help to tell a visual story and overcome any loss of detail due to compression.

Get close-ups of everything: Webcast video clips lose a significant amount of detail as a consequence of the compression algorithms used to make them small enough to download. As a result, it is important to get close-ups, filling the frame with every important detail (Figure 4).

When videotaping a close-up, I start with a full shot to contextualise the close-up and then, without changing the camera angle, I simply zoom in or move in closer from that position. This helps to contextualise the close-up when the shots are edited together later. Another approach is to use a *reveal*, a shot that starts with a close-up and then zooms or moves out to reveal where it is.

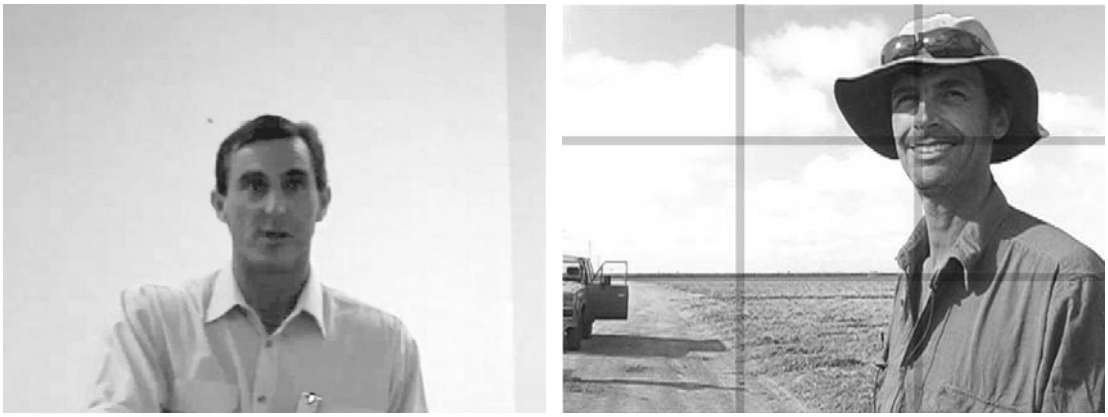

Fig. 5—These frames illustrate the difference between placing the subject at the centre of the frame (left) and aligning the subject and horizon line using the rule of thirds to compose the frame (right).

Composition – the rule of thirds: The rule of thirds divides the frame into a grid, much like the game of noughts-and-crosses (Figure 5. right). Features in the frame are aligned to one or more of the crossover points in this grid. This may not lead to a compositional masterpiece, but it is a fast and effective way to provide contrast and balance between the positive and negative spaces that compose the frame.

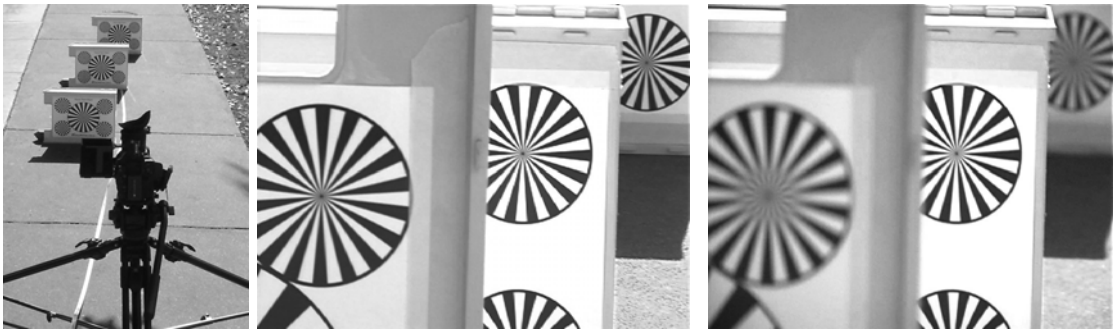

Fig. 6—A focal length test (left) demonstrates the difference between F2 (centre) and F16 (right).

Maintaining focus with depth of field: Auto-focus isn't much help when frame composition places the subject off centre, which the *rule of thirds* advocates, so one of the real challenges is keeping the subject manually focused. Fortunately, because most of my videotaping occurs in bright sunlight, this is something where the lens can actually help. Lenses use an iris to adjust the exposure to the image sensor. These F-stop adjustments range from about F2, where the iris is open, down to F16 where the iris is nearly closed. Closing the iris increases the depth of field; this is the area in front and behind the point of focus that appears to be sharp. In the example shown in Figure 6, closing the lens down to F16 and setting the point of focus at 2 m leaves everything from 1 m to 3 m looking equally sharp (Figure 6 right). So with these settings, all I need to do is stay 1 to 3 m away from my subject and they will appear to be in focus.

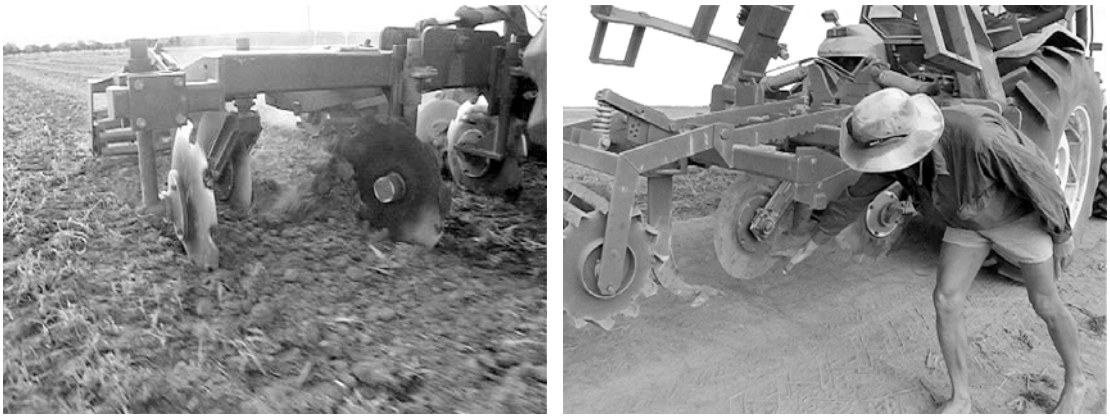

Fig. 7—The camera angle of the first shots (left) stays within 60° of the second shot (right) to avoid a jump cut when edited together.

Camera angles – the 60° rule: *What is it that makes some shots cut together nicely and other jump abruptly?* It is called persistence of vision. It is a trick our mind plays on our perception of what we see. As we glance from one object to another, we maintain a fleeting memory of the previous scene in our mind's eye.

This mechanism allows us to observe a sequence of still images in an animation and perceive continuous motion.

A similar phenomenon is at work when we cut from shot to shot in a sequence. Our mind's eye will help to smooth the transition for us if elements from the previous shot are recognised in the next shot. This is the theory behind the 60° rule.

The easiest way to apply this rule is to ensure all shots from the same scene remain within a 60° arc (Figure 7). If camera angle moves more than 60°, cutting between the shots may be abrupt, momentarily disorientating the audience and disengaging them from the narrative.

Fig. 8—An action axis exists between the presenter and the crowd (left) if the camera crosses this axis the presenter appears on the opposite side of the frame (right).

Continuity – the action axis: An action axis is created whenever people having a conversation or a vehicle in motion are videotaped. If the camera crosses this axis, the orientation of people on the screen, or motion of a vehicle will be reversed. If these shots are cut together, it will disorientate the audience. For example, in Figure 8 (left) the crowd is to the left of the presenter and then in the next shot (Fig. 8 right) the crowd is to the right because the action axis was crossed. This is an easy mistake to make when the crowd and presenter are on the move, or a farm vehicle reaches the end of the row and returns in the opposite direction. To avoid this problem, I always keep the presenter on one side of the viewfinder and I make sure vehicles move across the viewfinder in the same direction, crossing their path to videotape from the other side if need be.

The editing workflow

Log the footage: The editing process starts by knowing which shots you have, how well they turned out, and where they are located. Each tape is given a sequential number and watched from start to finish as the digital video is transferred to hard disk from the camcorder via a firewire cable. Aside from briefly describing each segment, it is also useful to record first impressions, and that way I can maintain some perspective as I become more familiar with the material.

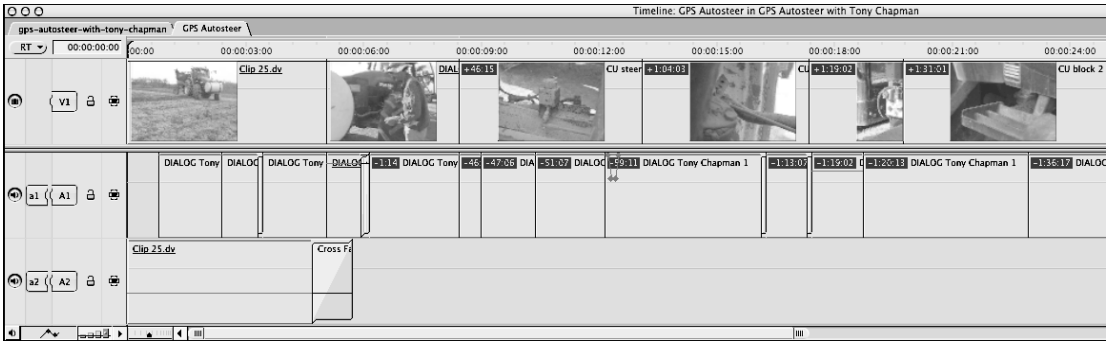

Fig. 9—Non-linear editing software is used to tidy up the dialogue and overlay illustrative shots.

Tidy up the dialogue: Each clip begins with the creation of a dialogue track (Figure 9). I start by listening to all the dialogue recordings and identifying the key ideas that should be conveyed. Often these will have been expressed several times and in different ways, so I am looking for when they were clearly and concisely expressed. Next, the segments are loosely strung together to construct a narrative. Then they are trimmed, primarily to remove my questions, but also to remove any other dead space like ‘umms’, and misspoken words that were rephrased or repeated. Lastly, the edits are cross-faded together to hide the edit points. The end product will be a polished and articulate vocal performance, not dissimilar to the original, yet one that conveys succinctly the essence of what was said.

Illustrate the narrative: The final step is to overlay shots that will illustrate the dialogue track. Essentially, the dialogue provides the structure for a story that is told visually using a sequence of shots. The key techniques employed here are to cut on movement, use audio to introduce scene changes, and to show illustrations just before they are spoken about.

Cutting on movement works much like the 60° rule; matching movement in the same direction will help to smooth the transition between discontinuous shots. In situations where there is an abrupt scene change, introducing audio from the next scene prior to the cut will also smooth the transition. Finally, any shots that illustrate the dialogue should appear just before they are spoken about. In this way, the visuals reinforce the spoken word, because the audience begins thinking about what they are seeing as the dialogue describes it.

Fig. 10—Video clips on the Shedmeeting belong to one or more categories which can be browsed in the top navbar and right sidebar menus, and they are also linked to other points of interest.

The website

Once they are finished, the video clips are compressed and uploaded to the website (Figure 10). I chose the flash video format for distribution because the flash player is so pervasive (Adobe, 2008).

The videos are compressed with 192 kbs video data rate, and 64 kbs mono audio data rate giving a combined 256 kbs data rate for streaming uninterrupted using a standard ADSL connection. A content management system looks after updating the website when new clips are uploaded.

Each clip is given a title and description, assigned to one or more categories, and linked to other clips of interest. When these data are submitted, new menus and pages for the website are generated automatically. The website also has the capacity for interaction, allowing users to post questions or comments about the videos, and displays counters for the number of times each video clip has been viewed.

Conclusion

With the wider availability of broadband, there is an opportunity to use video webcasting as a means of providing timely, high-impact and low-cost extension resources. Video is an excellent medium for communicating real-world experiences with the potential to overcome literacy and numeracy barriers, particularly when communicating economic information. Distribution is also flexible; video can be accessed online or on DVD, either autonomously or in a group setting. The potential audience includes not only growers but also other frontline service providers and agencies, including the general public. It will be interesting to see if public perceptions of the cane industry change when the first-hand experiences of so many innovative growers are so readily available for anyone to see. However, it is essential sugar research and extension providers tell stories visually if they want to get the most out of this medium.

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