How to Create Videos for Extension Education: An Innovative Five-Step Procedure

Abstract

Although the benefits of using video as a learning tool in Extension programs are well known, less is understood about effective methods for creating videos. We present a five-step procedure for developing educational videos that focus on evidence-based practices, and we provide practical examples from our use of the five steps in creating a video series for an Extension program. Through the effective development of videos, Extension professionals can organize and present information in a meaningful way.

Keywords: Extension videos, professional development, adult learners, behavior change, video development

Dipti A. Dev
Betti and Richard Robinson Assistant Professor and Child Health Behaviors Extension Specialist Department of Child, Youth and Family Studies University of Nebraska–Lincoln Lincoln, Nebraska ddev2@unl.edu

Kimberly A. Blitch
Assistant Professor Department of Human Development and Family Studies University of Alabama Tuscaloosa, Alabama kablitch@ches.ua.edu

Holly Hatton-Bowers
Assistant Professor and Early Childhood Extension Specialist Department of Child, Youth and Family Studies University of Nebraska–Lincoln Lincoln, Nebraska hattonb@unl.edu

Samantha Ramsay
Associate Professor, Food and Nutrition School of Family and Consumer Sciences University of Idaho Moscow, Idaho

Aileen S. Garcia
Doctoral Candidate Department of Child, Youth and Family Studies University of Nebraska–Lincoln Lincoln, Nebraska agarcia13@unl.edu

Introduction

Video is a favored adult learning tool as it conveys information through visual images and auditory signals (Contento, 2010). Although creating educational videos can be time intensive (Fletcher, Price, & Branen, 2010), videos offer great accessibility, reach, and flexibility to viewers (Schober, Sella, Fernandez, Ferrel, & Yaroch, 2016). They also can serve as useful tools for offering on-demand professional development (Bargeron, Gupta, Grudin, Sanocki, & Li, 2001). Additionally, previous research has shown that videos can facilitate behavior change (Ramsay, Holyoke, Branen, & Fletcher, 2012) and increase knowledge of relevant concepts (Langworthy, 2017; Mathiasen, Morley, Chapman, & Powell, 2012; Polson, 1999), rendering them useful for Extension education

(Contento, 2010). Relatedly, suggestions regarding elements of effective videos have been communicated. For example, Ramsay at al. (2012) identified the following six characteristics of effective videos:

- Realistic scenarios are depicted.

- Scenes last 1–5 min.

- A single, simple message is conveyed.

- An illustration of how skills are applied is provided.

- Realistic settings (e.g., workplace of the learner) are featured.

- A combination of visual and auditory information is used to facilitate conceptualization of the content.
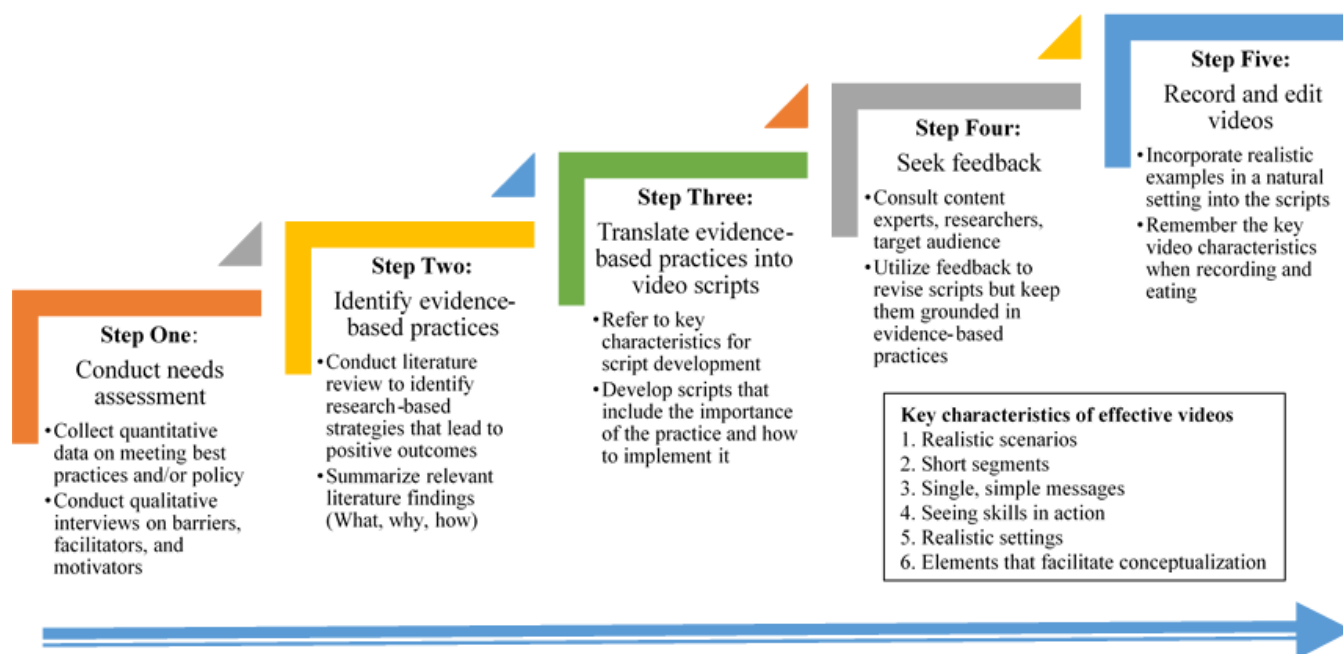
Whereas we know what to include in videos to facilitate adult learning and we understand the resulting benefits, there is limited guidance for how to develop videos using evidence-based practice. This article provides recommendations for how to create videos for adult learners, with illustrative examples from an early childhood nutrition Extension program.

Five-Step Procedure for Developing Educational Videos

Incorporating the characteristics of effective videos identified by Ramsay et al. (2012), we used a five-step procedure to create a series of videos for Ecological Approach To (EAT) Family Style, an Extension program for childcare providers developed at the University of Nebraska–Lincoln (Dev, 2018). The procedure's five steps are outlined in Figure 1, and details for implementing the steps are presented in the paragraphs following the figure.

Figure 1.

Five-Step Procedure for Developing Educational Videos

Step One:

Conduct needs assessment

- Collect quantitative data on meeting best practices and/or policy
- Conduct qualitative interviews on barriers, facilitators, and motivators

Step Two:

Identify evidence-based practices

- Conduct literature review to identify research-based strategies that lead to positive outcomes
- Summarize relevant literature findings (What, why, how)

Step Three:

Translate evidence-based practices into video scripts

- Refer to key characteristics for script development
- Develop scripts that include the importance of the practice and how to implement it

Step Four:

Seek feedback

- Consult content experts, researchers, target audience
- Utilize feedback to revise scripts but keep them grounded in evidence-based practices

Step Five:

Record and edit videos

- Incorporate realistic examples in a natural setting into the scripts
- Remember the key video characteristics when recording and eating

Key characteristics of effective videos
1. Realistic scenarios
2. Short segments
3. Single, simple messages
4. Seeing skills in action
5. Realistic settings
6. Elements that facilitate conceptualization

Step 1. Conduct a needs assessment with the target population on a topic of interest.

a. Complete a needs assessment to inform the content of the videos. This activity consists of a bottom-up collaborative approach involving the target audiences, allowing you to (a) identify immediate needs, (b) formulate and deliver educational content to address those needs, and (c) improve skills, practices, and implementation of policies. Initial actions taken during the development of the EAT Family Style video series serve to exemplify this approach. The first author on our team conducted a needs assessment through self-administered surveys to determine whether target audience members (childcare providers) were applying recommendations for promoting children's healthful eating. Results showed that target audience members were not applying the recommendations, indicating a need to increase childcare providers' learning in this area (Dev, McBride, & STRONG Kids Research Team, 2013).

b. Collect qualitative data as a follow-up to quantitative findings. For example, for the purpose of clarifying the findings from the aforementioned needs assessment survey, follow-up qualitative interviews were conducted. The interviews revealed many barriers to implementing recommendations as well as facilitators and motivators that could be leveraged as strategies for overcoming those barriers (Dev, McBride, Speirs, Blitch, & Williams, 2016; Dev, Speirs, McBride, Donovan, & Chapman-Novakofski, 2014). In this case, the needs assessment identified what information the target audience needed to learn to effectively address the barriers to applying recommendations. This information provided an essential perspective for developing educational content for the videos.

Step 2. Identify evidence-based practices for addressing knowledge gaps and barriers.

a. Following the needs assessment, complete a review of empirical literature that provides strategies for addressing the gaps and barriers identified by the target audience. For the example identified previously, a literature review was conducted to identify practices that were effective in improving child outcomes related to

healthful eating in childcare programs.

b. Summarize the relevant literature in a way that offers practical information about what the research-based strategies are, why the strategies are important, and how to implement the strategies using specific actions and verbal phrases in a natural setting.

Step 3. Translate evidence-based practices, with practical examples, into video scripts.

a. Develop video scripts following the guidance from Ramsay et al. (2012) regarding the six characteristics of effective videos. Write scripts that provide information on what will be taught (i.e., an evidence-based concept or strategy, as identified in Step 2), why it is important, and how to implement it. For example, during Step 2 of development of the EAT Family Style videos, enthusiastic role modeling during family style meals was identified as an effective strategy for encouraging children to try new foods. Thus, a video script was created to demonstrate such role modeling. (See Table 1.)

Step 4. Seek peer and practitioner feedback on developed video scripts.

a. Before recording the videos, obtain feedback on the video scripts from relevant individuals, including content experts, researchers, Extension professionals, and members of the target audience. Incorporate feedback into the video scripts where applicable. This process ensures that the delivered content is grounded in research-based evidence, is easy to understand, and is relevant to the target audience.

Step 5. Record and edit the videos.

a. Using the peer-reviewed scripts, record the videos in natural or real-world settings. As an example, use of this approach for the EAT Family Style videos involved recording childcare providers in their centers during mealtimes with children. When choosing the people and settings to include in the videos, make sure diversity is represented when applicable.

b. Encourage video participants to use the scripts to understand the research-based strategies and concepts, but allow them to state a concept in their own words to make it more authentic and comfortable.

A description of the EAT Family Style videos we produced using the five-step procedure is provided in Table 1. Videos 2, 5, and 6 present educational concepts translated from the needs assessment (Step 1). Videos 3 and 4 feature research-based best practices summarized from the associated literature review (Step 2).

Table 1.
Examples from the EAT Family Style Program to Illustrate
Use of the Five-Step Procedure for Creating Educational Videos

Video number	Topic	Web link	Length	Description
1	What? Introduction	"Role Modeling Introduction" https://mediahub.unl.edu/media/4204	1:10	Introduces the importance of appropriate and effective modeling during mealtimes

2	Why? Importance of role modeling	"Importance of Role Modeling" https://mediahub.unl.edu/media/4401	1:12	Discusses why role modeling is important, from a childcare provider's point of view
3	How? Effective mealtime strategies	"Role Modeling: Effective Mealtime Strategies" https://mediahub.unl.edu/media/4203	4:00	Discusses effective research-based strategies to use at mealtime: 1. Sit with children during mealtimes. 2. Eat the same foods that children eat. 3. Eat the food at least twice. 4. Gently prompt children to try foods. 5. Be positive. 6. Repeatedly offer a variety of foods.
4	How? Effective verbal comments	"Role Modeling: Effective Verbal Comments" https://mediahub.unl.edu/media/4202	4:14	Explains elements of effective verbal comments: 1. Make specific comments. 2. Be enthusiastic. 3. Ask questions about the food. 4. Use absolute comments.
5	Overcoming barriers	"Role Modeling: Overcoming Barriers" http://mediahub.unl.edu/media/4191	1:41	Discusses a barrier: Modeling strategies such as sitting and eating meals with children is hard because childcare providers are short staffed.
6	Overcoming barriers	"Family Style Meals: Tips for Dealing with Messes" https://mediahub.unl.edu/media/5515	2:46	Discusses a barrier: It is hard to allow children to serve themselves (family-style meals) because doing so is messy and takes a lot of time.

Participant Feedback from Training Sessions Using the Videos

Videos shared at a training were well received, with 100% of the participants (N = 158) agreeing that the materials presented during the training generated a desire to learn. Additionally, a summary of responses collected from five different trainings in 2016 (N = 173) showed that 86% of respondents expressed that they would implement what they had learned in their workplaces as result of watching the videos. Participants also provided written comments about the videos in a 2016 early childhood educator training (see Figure 2 for selected responses).

Figure 2.

Qualitative Feedback About the EAT Family Style Videos from Training Participants

Feedback on Videos

"I think the videos are great additions. Research is also important."

"All very useful. Like the videos."

"I enjoyed watching the video of the 2-year-old's measuring water and sand to practice before measuring food inside."

"For once I finally felt like we were given realistic ideas on how to get these kids to eat, and you addressed our everyday concerns. I've been doing daycare for 6 years and finally feel like I understand more effective ways to get kids to try new things!"

Conclusion

Using video media can be a successful way to demonstrate best practices, but there has been limited guidance for how to develop such media. The five-step procedure described in this article can be adapted in a variety of Extension areas to develop educational videos that effectively illustrate evidence-based practices.

Acknowledgment

References

Bargeron, D., Gupta, A., Grudin, J., Sanocki, E., & Li, F. (2001). Asynchronous collaboration around multimedia and its application to on-demand training. In *Proceedings of the 34th Annual Hawaii International Conference on System Sciences*, 1–10. Retrieved from http://ieeexplore.ieee.org/document/926509/?part=1

Contento, I. R. (2010). *Nutrition education: Linking research, theory, and practice.* Sudbury, MA: Jones and Bartlett.

Dev, D. A. (2018). Ecological approach to family style dining: Professional development program for child care

providers. Retrieved from http://childpd.unl.edu/index.php?menu=EAT

Dev, D. A., McBride, B. A., Speirs, K. E., Blitch, K. A., & Williams, N. A. (2016). "Great job cleaning your plate today!" Determinants of child-care providers' use of controlling feeding practices: An exploratory examination. *Journal of the Academy of Nutrition and Dietetics*, *116*(11), 1803–1809.

Dev, D. A., McBride, B. A., & STRONG Kids Research Team. (2013). Academy of Nutrition and Dietetics benchmarks for nutrition in child care 2011: Are child-care providers across contexts meeting recommendations? *Journal of the Academy of Nutrition and Dietetics*, *113*(10), 1346–1353.

Dev, D. A., Speirs, K. E., McBride, B. A., Donovan, S. M., & Chapman-Novakofski, K. (2014). Head Start and child care providers' motivators, barriers and facilitators to practicing family-style meal service. *Early Childhood Research Quarterly*, *29*(4), 649–659.

Fletcher, J. W., Price, B. A., & Branen, L. J. (2010). Videotaping children and staff in natural environments: Gathering footage for research and teaching. *Contemporary Issues in Early Childhood*, *11*, 219–226.

Langworthy, S. (2017). Do you YouTube? The power of brief educational videos for Extension. *Journal of Extension*, *55*(2), Article 2IAW1. Available at: https://www.joe.org/joe/2017april/iw1.php

Mathiasen, L., Morley, K., Chapman, B., & Powell, D. (2012). Using a training video to improve agricultural workers' knowledge of on-farm food safety. *Journal of Extension*, *50*(1), Article 1FEA6. Available at: https://www.joe.org/joe/2012february/a6.php

Polson, J. (1999). Using video of a master farmer to teach others. *Journal of Extension*, *37*(2), Article 2RIB1. Available at: https://www.joe.org/joe/1999april/rb1.php

Ramsay, S. A., Holyoke, L., Branen, L. J., & Fletcher, J. (2012). Six characteristics of nutrition education videos that support learning and motivation to learn. *Journal of Nutrition Education and Behavior*, *44*(6), 614–617. doi:10.1016/j.jneb.2011.10.010.

Schober, D. J., Sella, A. C., Fernandez, C., Ferrel, C., & Yaroch, A. L. (2016). Participatory action research to develop nutrition education videos for child care providers: The Omaha nutrition education collaborative. *Pedagogy in Health Promotion*, *2*(4), 244–250. doi:10.1177/2373379915627669.