

*USING VIDEO TECHNOLOGY TO DISSEMINATE BEHAVIORAL PROCEDURES: A REVIEW OF FUNCTIONAL ANALYSIS: A GUIDE FOR UNDERSTANDING CHALLENGING BEHAVIOR (DVD)*

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Although applied behavior analysis has generated many highly effective behavior-change procedures, the procedures have not always been effectively disseminated. One solution to this problem is the use of video technology, which has been facilitated by the ready availability of video production equipment and software and multiple distribution methods (e.g., DVD, online streaming). We review a recent DVD that was produced to disseminate the successful experimental functional analysis procedure. The review is followed by general recommendations for disseminating behavior-analytic procedures via video technology.

DESCRIPTORS: dissemination, functional analysis, video technology

Despite their success in developing effective behavioral technology, behavior analysts have been somewhat less successful in its dissemination. Over the years, many have lamented the lack of widespread adoption of behavioral technology in the culture and have proposed a variety of causes of and solutions to the problem (Geller, 1989; Malott, 1996; Morris, 1985; Schwartz & Baer, 1991; Todd & Morris, 1992). We believe that media selection is a vital component of any dissemination effort. Although treatment manuals and other printed content are perhaps the most common media selected, behavior analysts are increasingly using video technology for dissemination. In the present article, we review a recent example of video-based dissemination and then provide general recommendations for other behavior analysts who are considering similar dissemination efforts.

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*Using Video Technology to Disseminate Functional Analysis*

The functional analysis is an experimental approach to the identification of a problem behavior's controlling variables and is considered by many to be the gold standard of functional assessment, especially in the area of developmental disabilities. Since its formal introduction to the literature (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994), the functional analysis has become ubiquitous in applied behavior analysis. For example, Hanley, Iwata, and McCord (2003) reviewed the behavioral literature through 2000 and found 536 functional analyses reported by 277 studies across 34 scientific journals. Furthermore, published surveys have shown that the functional analysis is commonly implemented by practitioners (e.g., Ellingson, Miltenberger, & Long, 1999; Love, Carr, Almason, & Petursdottir, 2009). Despite the demonstrated utility of the functional analysis and the frequency with which it is used for research and clinical purposes, remarkably few training and dissemination materials have been developed around this assessment. The product reviewed next is

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the first commercially available video of which we are aware that is designed to introduce this important technology to the public.

### *Product Overview*

*Functional Analysis: A Guide for Understanding Challenging Behavior* is a 30-min DVD accompanied by a 10-page booklet. The DVD was produced by the Center for Autism Spectrum Disorders at Southern Illinois University (SIU) and is affiliated with the university's longstanding graduate program in behavior analysis and therapy. The DVD is available for purchase online (<http://www.casd.siu.edu/dvd/fadvd.html>) and costs \$80 including shipping. Unfortunately, the DVD is not available for download.

The DVD depicts the functional analysis model developed by Iwata et al. (1982/1994). The functional analysis is presented to the audience through a mock consultation between a behavior analyst and a special education teacher who is seeking training in functional analysis to assist with her students who display problem behavior. This consultation serves as a way to present expository content to the audience and frame several brief video samples illustrating functional analysis sessions. Helpful on-screen text is superimposed on and interspersed with the video to highlight key points throughout the DVD. For example, the following text is displayed during the section describing the demand condition:

During Session:

- Use a standard prompting sequence (Tell-Show-Assist)
- Continue demand following noncompliance
- Deliver brief praise for compliance
- Continue demand following other challenging behavior
- Remove materials and turn away from child following target behavior

Before the functional analysis is depicted, the mock consultation provides the audience with

relevant background information, including a brief introduction to the three approaches to functional assessment (i.e., indirect, descriptive, experimental). Because the focus of the DVD is on the experimental functional analysis method, relatively little information is provided on indirect and descriptive methods. Next, the common reinforcement functions of problem behavior are presented (i.e., attention, tangible, escape from demands, automatic reinforcement). After the introduction, video samples are provided to illustrate how to conduct attention, tangible, demand, no-interaction, and play (control) conditions. These vignettes, which represent the majority of the DVD's content, depict a therapist working in a small room with a young girl (with no apparent disabilities) who displays aggressive behavior. Each vignette lasts approximately 3 min and includes a voiceover and on-screen text describing the condition's defining characteristics. After the vignettes, the mock consultation ends with a brief discussion of using the results from a functional analysis to guide treatment development. A brief booklet accompanies the DVD and includes an outline that highlights the DVD's primary content (including all of the on-screen text), 20 review questions, and a bibliography of four suggested readings.

### *Product Quality*

The DVD's packaging is attractive and clear. Although the video production is not quite at the professional level, it comes close. The acting, narration, editing, and background music are fairly typical for instructional videos and are more than adequate for its purpose. The one significant limitation of the DVD is that it does not include chapters for easily navigating the content. For example, to watch only the video vignette of the play (control) condition, one must start the DVD and manually navigate to Minute 23.

### *Adequacy of Content*

The booklet states that the DVD was designed for use by behavior analysts "as part

of a more comprehensive functional assessment course or training program” (p. 2). This appears to be a reasonable description of this product, because it nicely introduces the concept of functional assessment and provides a good illustration of the experimental functional analysis method, something the field has needed for years. The first author of this review has used the DVD in undergraduate and graduate courses to illustrate the functional analysis, and it has served this purpose well.

As mentioned earlier, the DVD’s producers are affiliated with SIU’s behavior analysis and therapy program, so it is not surprising that the content of the DVD and booklet are technically accurate. Overall, the DVD provides a useful depiction of the functional analysis; however, the context for conducting the functional analysis could have been better developed. For example, the introduction to the practice of functional assessment could be strengthened by describing how common reinforcement functions develop and why they are so prevalent with some populations. This could be followed by a rationale for conducting a functional assessment and the benefits of a function-based approach to treatment selection. Such an elaboration would provide junior behavior analysts a good demonstration of how to facilitate a consumer’s “buy in” to the behavioral approach to treatment. After the functional analysis is depicted, the practice of linking treatment development to functional analysis results is only briefly mentioned. Although a demonstration of the array of empirically supported, function-based reductive interventions would have been beyond the scope of the DVD, the topic of function-based treatment could have been covered more thoroughly because it represents the reason for conducting a functional assessment. Because the DVD presents the functional analysis in a relatively limited context, it would need to be substantially subsidized when orienting users to the broader concept of functional assessment and

treatment. However, the DVD’s stated purpose is to introduce the user to the functional analysis, and it serves this purpose well.

Although the DVD was not designed to teach users how to conduct a functional analysis, a number of relatively minor additions would have significantly closed the gap between orientation and training. The following recommendations are provided in the event the producers develop a second edition of the DVD, which is not an unreasonable prospect given the relative ease of reediting digital video. From a technical perspective, it would be important to state that consequences and materials provided in a functional analysis should be based on prior indirect or descriptive assessment. This is especially important so as not to give the impression that the attention condition always involves reprimands and to prevent the development of a false-positive outcome in the tangible condition (Kodak, Northup, & Kelley, 2007; Shirley, Iwata, & Kahng, 1999). It would also be helpful to mention the recommended practice of including a distinct visual stimulus in each condition to increase its ability to quickly discriminate the client’s behavior (Conners et al., 2000). The present edition of the DVD does not provide a graphic depiction of data from the functional analysis or mention that the tactics of graphing and visual inspection are necessary for evaluating functional analysis results. These would represent significant improvements if they were included in a subsequent edition. Any DVD that is designed to train functional analysis skills would also need to include information about session order, duration, experimental design, data collection, selecting test conditions based on prior assessment, and developing individualized test conditions. Finally, we hope that the next generation of functional analysis DVD includes the best practice recommendations of Hanley et al. (2003). A critical feature should be the inclusion of specific information on the protection of the participant (e.g., session

termination criteria) and the minimization of risks to the participant (e.g., the use of padding during episodes of head banging) during the implementation of functional analyses. We believe these revisions would help to improve the function of the present version from orientation to training.

*Functional Analysis: A Guide for Understanding Challenging Behavior* is a commendable early step toward disseminating functional analysis technology to those who could benefit from such an introduction. We hope that other behavior analysts follow the example of the DVD's developers at SIU and consider similar efforts for dissemination of other behavioral technologies. We offer the following recommendations toward these efforts.

#### *Recommendations for Using Video Technology*

In addition to being well suited for demonstrating behavioral principles, processes, and procedures, video technology is an attractive dissemination option for several other reasons. Creating and editing video content is becoming increasingly affordable, because both software and hardware costs are now well within the range of the average consumer. The growth of Web sites with user-generated video content (e.g., YouTube) attests to both the affordability and ease of use of modern video technology. Videos can also be distributed in a variety of ways, such as on optical discs (e.g., DVD, Blu-ray discs) or as downloadable or streamed media on the Internet (e.g., YouTube). When delivered online, video content is also easy and inexpensive to update. Finally, the use of video may play an important motivational role in our dissemination efforts: In our multimedia culture, users may find our products more reinforcing if engaging video is incorporated. In fact, some users may find the *lack* of video in some cases aversive.

When using video to disseminate behavioral technology, issues related to the delivery system, production quality, and interactivity must be carefully considered. As mentioned above,

digital video can be delivered via optical disc or on the Internet. For the purpose of accessibility, online delivery has an advantage. Making video available for download on a Web site can also reduce costs by reducing or eliminating the need to produce and ship discs. Online delivery also poses challenges, however. For example, a Web site must be created and maintained, and if the video is to be sold, a secure payment processing system must be implemented. However, it is becoming increasingly easy to create a basic, low-cost Web site, and payment services such as PayPal are also making it easier to accept and process online payments. An additional challenge associated with online delivery is the size and quality of the video. High-quality videos and their large file sizes can still be frustrating for users to download, but improvements in streaming technology (whereby playback of the video begins before the entire file is downloaded) are also making this less of a concern. These challenges will continue to lessen as online technology continues to advance, and we recommend that disseminators make video content available for downloading or streaming via the Web to maximize accessibility.

Another important issue is the production quality of the video itself. When possible, it is beneficial to recruit professional videographers to assist with the development of a video. The use of trained actors, directors, and script writers may also be desirable. When this is not possible, reasonably professional content can still be produced with commercially available video cameras and video editing software. The advantages of amateur, user-generated content should not be ignored either. A Web site that permits users to upload videos of them implementing a procedure or using a product, for example, could be both informative and entertaining to potential adopters.

Finally, the degree of interactivity incorporated into the video must be considered. Although most of us are accustomed to using

videos primarily for entertainment or informational purposes, it is also possible to incorporate user interactions into most formats. The same functionality that permits the animated menu system on a movie DVD, for example, can also be used to prompt the user to answer a multiple-choice question. Additional types of interactions are possible with some online video formats, such as the one produced by Adobe Flash software. Disseminators may wish to consider incorporating this type of interactivity into their videos to promote active viewer responding. Such interactivity might possibly enable video dissemination efforts to influence user repertoires more directly than with passive video experiences alone.

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