Learning and Motivation 62 (2018) 119–129

Contents lists available at ScienceDirect

Learning and Motivation

journal homepage: www.elsevier.com/locate/l&m

Reprint of: Using video modeling with voiceover instruction plus feedback to train implementation of stimulus preference assessments☆

Casey L. Nottingham[a], Jason C. Vladescu[a,*], Antonia R. Giannakakos[a], Lauren K. Schnell[a], Joshua L. Lipschultz[b]

[a] Caldwell University, United States
[b] Florida Institute of Technology, United States

ARTICLE INFO

Keywords:
Performance feedback
Preference assessments
Staff training
Video model

ABSTRACT

Behavior analysts frequently use stimulus preference assessments to identify putative reinforcers for consumers with autism spectrum disorder. The current study evaluated the effect of video modeling with voiceover instruction and on-screen text (VMVOT) and performance feedback to train staff to implement the multiple-stimulus-without-replacement, paired-stimulus, and single-stimulus preference assessments. Generalization probes with a larger stimulus array and with an actual consumer were conducted. The results indicated that VMVOT may be a useful prelude to in-vivo training approaches, as all staff mastered the preference assessments and demonstrated high levels of generalized responding. This outcome is discussed in light of previous staff training studies and avenues for future research.

1. Introduction

Comprehensive behavioral intervention for consumers with autism spectrum disorder (ASD) relies heavily on the principles of reinforcement and the arrangement of reinforcing stimuli, events, and conditions (e.g., Esch, Esch, & Love, 2009; Fischetti, Wilder, Myers, Leon-Enriquez, Sinn, & Rodriguez, 2012; Karsten & Carr, 2009). As such, it is no surprise that a number of studies have outlined procedures, broadly referred to as stimulus preference assessments (SPA), to identify putative reinforcers (see Hagopian, Long, & Rush, 2004 for a review). These studies have noticeably influenced practice, as most certified behavior analysts have reported using SPAs (Graff & Karsten, 2012). Given their widespread use, it seems prudent to identify effective procedures to train staff to implement SPAs.

Broadly speaking, didactic training has proven largely ineffective, whereas training consisting of instructions, modeling, rehearsal, and feedback (referred to as behavioral skills training; BST) is considered an evidence-based approach (Parsons, Rollyson, & Reid, 2012). Research has demonstrated the effectiveness of BST to train human service staff to implement a number of technologies, including discrete-trial instruction (e.g., Sarokoff & Sturmey, 2004) and SPAs (e.g., Lavie & Sturmey, 2002). Although effective, the resources (e.g., training duration, number of staff trainers) that may be necessary to train staff using BST may negatively impact its efficiency and practicality in applied settings (Karsten, Axe, & Mann, 2015). To this point, research has historically evaluated

DOI of original article: http://dx.doi.org/10.1016/j.lmot.2017.01.008
☆ This article is a reprint of a previously published article. For citation purposes, please use the original publication details “Learning and Motivation 58 (2017) 37–47”.
* Corresponding author at: Department of Applied Behavior Analysis, Caldwell University, 120 Bloomfield Avenue, Caldwell, NJ 07006, United States.
E-mail address: jvladescu@caldwell.edu (J.C. Vladescu).

https://doi.org/10.1016/j.lmot.2018.05.002
Received 17 October 2016; Received in revised form 24 January 2017; Accepted 28 January 2017
Available online 25 June 2018

procedures that relied heavily on the presence of a staff trainer to implement SPA training components (e.g., Lerman, Tetreault, Hovanetz, Strobel, & Garro, 2008; Lerman, Vorndran, Addison, & Kuhn, 2004).

An emerging line of research has begun evaluating training techniques that do not require a staff trainer be present for all aspects of training (see Karsten et al., 2015 for a review). Training techniques that reduce the reliance on the presence of staff trainers may be more feasible to implement in applied settings. One such technique is video modeling. When used to train staff, video modeling involves showing a trainee a video depicting a trained individual implementing a behavioral technology with a simulated or actual consumer. The video may include voiceover instruction (VMVO) and embedded on-screen text (VMVOT). After viewing the video, training scenarios with simulated or actual consumers are arranged to determine the degree to which the trainee can implement the behavioral technology depicted on the video.

At least five studies have evaluated the use of video modeling to train implementation of one or more SPAs (Deliperi, Vladescu, Reeve, Reeve, & DeBar, 2015; Delli Bovi, Vladescu, DeBar, Carroll, & Sarokoff, 2016; Lipschultz, Vladescu, Reeve, Reeve, & Dipsey, 2015; Rosales, Gongola, & Homlitas, 2015; Weldy, Rapp, & Capocasa, 2014). For example, Lipschultz et al. (2015) evaluated the effect of VMVOT on trainee selection of SPAs, implementation of the single-stimulus (SS), paired-stimulus (PS), and multiple-stimulus-without-replacement (MSWO) SPAs with simulated and actual consumers, summarization of consumer performance, and interpretation of SPA outcomes. The trainees watched a training video containing voiceover instruction and embedded on-screen text prior to the initial treatment session then implemented each of the three SPAs. Trainees were required to re-watch the training video until they demonstrated mastery of each SPA, which required between two and six viewings. One trainee (Rick) required one session of performance feedback due to a persistent error being made during the MSWO. Additionally, all trainees demonstrated responding that generalized to actual consumers, and one-week probes collected for three of the trainees demonstrated high levels of response maintenance.

Although these findings are promising and support the use of video modeling to train SPA implementation, research should identify ways to further optimize training techniques. One aspect common to studies using video modeling is that trainees were required to view the training video multiple times (Deliperi et al., 2015; Delli Bovi et al., 2016; Lipschultz et al., 2015; Rosales et al., 2015; Weldy et al., 2014). For example, Deliperi et al. (2015) required staff to re-watch the training video until participants implemented a paired-stimulus SPA with mastery level integrity. Each viewing of the video increased the training duration by approximately 19 min. It may be possible to eliminate the need for trainees to re-watch the video if a staff trainer delivers brief verbal feedback regarding the trainee's performance following an initial viewing of a training video. Such an approach has been recommended to accompany video modeling (DiGennero-Reed & Henley, 2015) and evaluated to train staff to implement direct teaching procedures (Giannakakos, Vladescu, Kisamore, & Reeve, 2015).

Giannakakos et al. (2015) evaluated the effect of VMVO plus performance feedback on trainee implementation of a most-to-least direct teaching procedure with a simulated consumer. Additionally, generalization probes were conducted to evaluate performance with the most-to-least procedure with an actual consumer and with the least-to-most and prompt delay procedures with simulated and actual consumers. Prior to the initial training session, trainees watched a training video that outlined the steps of the most-to-least procedure one time. All subsequent training sessions began with positive and corrective feedback provided by the experimenter to the trainee regarding their performance during the previous session. The authors found that VMVO plus performance feedback was an effective procedure for training staff to implement the most-to-least procedure. Additionally, moderate to high levels of generalization were observed. On average, approximately 1 h 32 min of training were required for a trainee to master the most-to-least, least-to-most, and prompt delay procedures with simulated and actual consumers. When evaluating the training duration data more closely, it was more efficient to provide performance feedback than requiring the trainees to view the video again. For example, one trainee (Kristina) required approximately 2 min of performance feedback to master the most-to-least procedure with a simulated consumer. We believe this to be preferable to the approximately 27 min that would have been required for Kristina to re-watch the training video.

Giving the promising outcomes reported by Giannakakos et al. (2015), it is worthwhile to determine the effectiveness of VMVOT plus performance feedback to train staff to implement other common behavioral technologies. Therefore, the purpose of the current study was to use VMVOT plus in-vivo performance feedback to train three staff to implement the SS, PS, and MSWO SPAs. Further, we sought to evaluate whether trainee responding generalized from a simulated to actual consumer, and to implementing the SPAs with a larger array of stimuli not associated with training.

2. Method

2.1. Participants

Participants (hereafter referred to as trainees) were three females ranging in age from 23 to 27 years. At the beginning of the evaluation, Katrina, Inga, and Kimberly had 0, 15, and 8 months of experience providing behavior-analytic services to individuals with ASD, respectively. Participants had no previous training specific to SPAs, although it is possible they may have observed other staff implement SPAs during the course of their clinical duties. Prior to beginning the study, each trainee provided informed consent to participate and completed a 19-question multiple-choice pretest (available from the second author) prior to beginning the study to evaluate responses to questions pertaining to SPAs (M = 54% range, 47%–68%).

The first author served as the simulated instructor and the third and fourth authors served as simulated consumers. Additionally, two children with an ASD diagnosis (hereafter referred to as actual consumers) served as the actual consumers during generalization sessions. Christopher was eight-years-old, and Curtis was five-years-old. Both boys had extensive histories receiving behavior-analytic