ELSEVIER

Journal of School Psychology 46 (2008) 575 – 592

Journal of School Psychology

Increasing on-task behavior in every student in a second-grade classroom during transitions: Validating the color wheel system

Daniel L. Fudge [a], Christopher H. Skinner [a,*], Jacqueline L. Williams [a], Dan Cowden [b], Janice Clark [b], Stacy L. Bliss [a]

[a] *The University of Tennessee, United States*
[b] *Knox County School System, United States*

Received 2 October 2007; received in revised form 20 March 2008; accepted 13 June 2008

Abstract

A single-case (B–C–B–C) experimental design was used to evaluate the effects of the Color Wheel classroom management system (CWS) on on-task (OT) behavior in an intact, general-education, 2nd-grade classroom during transitions. The CWS included three sets of rules, posted cues to indicate the rules students are expected to be following at that time, and transition procedures for altering activities and rules. Class-wide data analysis showed large, immediate, and sustained increases in OT behavior when the CWS was applied, with OT behavior returning to baseline levels when typical classroom management (TCM) procedures were reinstated. Each student's average phase data also showed increases in OT behavior when the CWS was applied and re-applied, and showed reductions when the CWS was withdrawn. Discussion focuses on evaluating the internal, external, and contextual validity of class-wide remediation and prevention procedures.

Keywords: Color Wheel System; On-task behavior; Transitions; Internal, external, and contextual validity

* Corresponding author.
E-mail address: cskinne1@utk.edu (C.H. Skinner).

0022-4405/$ - see front matter
doi:10.1016/j.jsp.2008.06.003

Introduction

School psychologists are charged with contributing to the remediation of students' behavior, social/emotional, and learning problems (Fagan & Wise, 2000; Merrell, Ervin, & Gimpel, 2006). As professionals, school psychologists seek to promote the application of interventions, procedures, and/or strategies that are supported by science. Across researchers there is disagreement over the specific definition and/or criteria used to determine if an intervention is scientifically supported, empirically validated, evidence based and/or data based. However, there is general agreement that one reason researchers evaluate interventions is to provide *practitioners* with evidence that a) the intervention has caused desired behavior change, b) the intervention may cause similar behavior change in their applied setting, and c) they can implement and sustain the procedures in their setting without disrupting other routines or causing other negative side effects (Detrich, Keyworth, & States, 2007; Kazdin, 2004; Kratochwill & Shernoff, 2004; Shriver, 2007; Skinner & Skinner, 2007).

When conducting behavior change studies, researchers seek to establish internal validity by showing that the independent variable (e.g., intervention), as opposed to something else (confounding variables), caused the measured changes in behavior during the course of the study. External validity is demonstrated based on evidence that the intervention would be effective across target behaviors, students, settings, implementation agents, and/or researchers. Evidence of external validity may enhance practitioners' confidence that the intervention will have a similar effect in their environment (Campbell & Stanley, 1966). If educators are to implement an intervention in their specific context, evidence of the procedure's pragmatic characteristics (e.g., amount of training, time, and resources required to implement the intervention) are needed. Additionally, the ability to integrate the intervention with other classroom activities, the sustainability of the intervention, and the positive and negative side effects across students and target behaviors must be considered (Detrich et al., 2007; Kratochwill & Shernoff, 2004). As these considerations are dependent upon the practitioner's specific idiosyncratic context (other educational and behavior management activities and procedures being applied, school rules and policies, differing behavior problems across students), we will refer to these characteristics as evidence of contextual validity (Skinner & Skinner, 2007). Because practitioners are unlikely to have much interest in the generalizability or contextual validity of ineffective interventions, establishing internal validity is a necessary, but not sufficient, requirement for establishing the applied value of any intervention.

Classroom transition management

Within-classroom, group-activity transitions involve stopping one activity (e.g., independent seat-work) and beginning another (Rice & Spetz, 1982; Schmit, Alper, Raschke, & Ryndak, 2000). Even experienced educators often have difficulty managing student behavior during transitions (Buck, 1999; Saifer, 2003). When several students fail to follow transition directions, educators may (a) repeat directions, (b) reprimand or punish those who did not comply with directions, (c) wait, and require the rest of the class to wait for the students to begin to comply with directions, and/or (d) ignore those who are not following directions and start the next activity. Thus, students' failure to follow transition