This study evaluated the use of a teacher-conducted trial-based functional analysis (TBFA) in a long-term correctional school. Two juvenile justice teachers implemented the TBFA procedure during regular classroom activities for three youth who displayed chronic challenging behavior. Results of the TBFA aligned with outcomes from researcher-conducted functional behavior assessment for all three participants. An antecedent-based intervention derived from the TBFA outcome was implemented for one youth and proved effective in increasing on-task behavior in the classroom. Social validity of the procedure was also investigated. Findings suggest that TBFA is an effective method to determine behavioral function of students with chronic challenging behavior, is useful in developing effective intervention, and is appropriate for use in the juvenile justice setting.