



## Appendix C: Inventory of research on classroom management in PK-12 classrooms

### Studies investigating classroom management strategies that have been successful in improving student behavior and related outcomes

Research on classroom management is drawn from three sources: *Evidence-based practices in classroom management: Considerations for research to practice* (Simonsen et al., 2008); *Teacher classroom management practices: Effects on disruptive or aggressive student behavior* (Oliver et al., 2011); and *Reducing behavior problems in the elementary school classroom* (Institute of Education Sciences, 2008). Each of these studies extensively reviewed research on classroom management using rigorous screening criteria. These studies identified the skills, techniques and approaches to classroom management that had been proven effective.

In a vivid demonstration of the variation in the field, these three analyses together identified over 150 studies deemed rigorous and relevant to classroom management (spanning from the mid-1960s through just a few years ago). However, even though they each claimed to use similar rigorous methodology for identifying research, only nine of the 150 studies were included in more than one of the three analyses, and none was included in all three, perhaps because of the different screening criteria each employed. For example, a number of the studies cited by Simonsen relied on single-case studies. In contrast, Oliver's analysis only included studies that had experimental or quasi-experimental designs. These and other differences in screening processes contributed to the lack of overlap in research.

The meta-analysis by Oliver et al. identified studies with rigorous design and determined that teachers' classroom management practices reduce behavior problems. This analysis did not identify the specific elements of classroom management that are effective; the studies did not have enough statistical power to yield these findings. However, revisiting the studies that Oliver et al. included in this analysis allows the identification of the classroom management techniques they employed. While this analysis does not explicitly support specific classroom management techniques, it does suggest that using classroom management rather than relying only on effective instruction is more useful in maintaining student behavior.

Nearly half the studies identified by these three analyses were located. All available studies were reviewed to determine whether they meet either NCTQ's standards for strong research design or the Institute of Education Sciences' (IES) pilot standards for single-case designs. Studies that meet one or both of these standards were then analyzed to determine to which classroom management strategies they related. The studies in this collection may not appear in NCTQ's Classroom Management Research Inventory<sup>23</sup> (published in conjunction with the *Teacher Prep Review 2013*) because of the time period of reporting. That is, many of the studies predate this century.

Fig. 17 Studies that meet NCTQ's or IES's study design standards

Classroom management strategies

	Studies on strategies with STRONGER aggregated research support <sup>24</sup>					Studies on strategies <sup>25</sup> with MODERATE or LIMITED aggregated research support <sup>26</sup>								
	Rules	Routines	Praise	Engagement	Misbehavior	Parental involvement	Least disruptive	Academic interventions	Teaching students problem solving, social skills	Teaching students to self-monitor	Peer monitoring & peer tutoring	Physical environment	School-wide behavior plan	Other
Abramowitz, A. J., O'Leary, S. G., & Futersak, M. W. (1988). The relative impact of long and short reprimands on children's off-task behavior in the classroom. <i>Behavior Therapy</i> , 19, 243-247.			✓		✓									
Acker, M. M., & O'Leary, S. G. (1988). Effects of consistent and inconsistent feedback on inappropriate child behavior. <i>Behavior Therapy</i> , 19, 619-624.					✓									
Austin, J. L., Lee, M., & Carr, J. P. (2002). The effects of guided notes on undergraduate students' recording of lecture content. <i>Journal of Instructional Psychology</i> , 31(4), 314-320.				✓				✓						
Barbetta, P. M., Heward, W. L., Bradley, D. M., & Miller, A. D. (1994). Effects of immediate and delayed error correction on the acquisition and maintenance of sight words by students with developmental disabilities. <i>Journal of Applied Behavior Analysis</i> , 27(1), 177-178.								✓						
Beard, K. Y., & Sugai, G. (2004). First step to success: An early intervention for elementary children at risk for antisocial behavior. <i>Behavioral Disorders</i> , 29(4), 396-409.	✓		✓		✓	✓								
Brodén, M., Bruce, C., Mitchell, M. A., Carter, V., & Vance, H. R. (1970). Effects of teacher attention on attending behavior of two boys at adjacent desks. <i>Journal of Applied Behavior Analysis</i> , 3(3), 205-211.			✓											
Cameron, J., & Pierce, W. D. (1994). Reinforcement, reward, and intrinsic motivation: A meta-analysis. <i>Review of Educational Research</i> , 64(3), 363-426.			✓											
Cameron, J., Banko, K. M., & Pierce, W. D. (2001). Pervasive negative effects of rewards on intrinsic motivation: The myth continues. <i>The Behavior Analyst</i> , 24(1), 1-44.			✓											
Carnine, D. W. (1976). Effects of two teacher-presentation rates on off-task behavior, answering correctly, and participation. <i>Journal of Applied Behavior Analysis</i> , 9(2), 199-206.			✓	✓				✓						
Colvin, G., Sugai, G., Good, R. H. III, & Lee, Y.-Y. (1997). Using active supervision and pre-correction to improve transition behaviors in an elementary school. <i>School Psychology Quarterly</i> , 12(4), 344-363.	✓						✓							
Craft, M. A., Alber, S. R., & Heward, W. L. (1998). Teaching elementary students with developmental disabilities to recruit teacher attention in a general education classroom: Effects on teacher praise and academic productivity. <i>Journal of Applied Behavior Analysis</i> , 31(3), 399-415.			✓						✓					

### Classroom management strategies

	Studies on strategies with STRONGER aggregated research support					Studies on strategies with MODERATE or LIMITED aggregated research support								
	Rules	Routines	Praise	Engagement	Misbehavior	Parental involvement	Least disruptive	Academic interventions	Teaching students problem solving, social skills	Teaching students to self-monitor	Peer monitoring & peer tutoring	Physical environment	School-wide behavior plan	Other
Daunic, A. P., Smith, S. W., Brank, E. M., & Penfield, R. D. (2006). Classroom-based cognitive-behavioral intervention to prevent aggression: Efficacy social validity. <i>Journal of School Psychology, 44</i> , 123-139.									✓					
Davies, S., & Witte, R. (2000). Self-management and peer-monitoring within a group contingency to decrease uncontrolled verbalizations of children with attention-deficit/hyperactivity disorder. <i>Psychology in the Schools, 37</i> (2), 135-147.				✓						✓	✓			
De Pry, R. L., & Sugai, G. (2002). The effect of active supervision and pre-correction on minor behavioral incidents in a sixth grade general education classroom. <i>Journal of Behavioral Education, 11</i> (4), 255-267.	✓		✓				✓							✓
Deci, E. L., Ryan, R. M., & Koestner, R. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. <i>Psychological Bulletin, 125</i> (6), 627-668.			✓											
Dolan et al. (1993). The short-term impact of two classroom-based preventive interventions on aggressive and shy behaviors and poor achievement. <i>Journal of Applied Developmental Psychology, 14</i> , 317-345.			✓	✓				✓						
Drabman, R. S., Spitalnik, R., & O'Leary, K. D. (1973). Teaching self-control to disruptive children. <i>Journal of Abnormal Psychology, 82</i> (1), 10-16.			✓						✓					
Dunlap, G., DePerczei, M., Clarke, S., Wilson, D., Wright, S., White, R., & Gomez, A. (1994). Choice making to promote adaptive behavior. <i>Journal of Applied Behavior Analysis, 27</i> (3), 505-518.				✓				✓						
DuPaul, G. J., Ervin, R. A., Hook, C. L., & McGoey, K. E. (1998). Peer tutoring for children with attention deficit hyperactivity disorder: Effects on classroom behavior and academic performance. <i>Journal of Applied Behavior Analysis, 31</i> (4), 579-592.			✓	✓	✓						✓			
Evertson et al. (1988-1989). Improving elementary classroom management: A school-based training program for beginning the Year. <i>Journal of Educational Research, 83</i> (2), 82-90.	✓	✓	✓	✓	✓							✓		
Gottfredson, D. C., Gottfredson, G. D., & Hybl, L. G. (1993). Managing adolescent behavior a multiyear, multischool study. <i>American Educational Research Journal, 30</i> (1), 179-215.	✓		✓	✓		✓								

### Classroom management strategies

	Studies on strategies with STRONGER aggregated research support					Studies on strategies with MODERATE or LIMITED aggregated research support								
	Rules	Routines	Praise	Engagement	Misbehavior	Parental involvement	Least disruptive	Academic interventions	Teaching students problem solving, social skills	Teaching students to self-monitor	Peer monitoring & peer tutoring	Physical environment	School-wide behavior plan	Other
Greenwood, C. R., Hops, H., Delquadri, J., & Guild, J. (1974). Group contingencies for group consequences in classroom management: A further analysis. <i>Journal of Applied Behavior Analysis</i> , 7(3), 413-425.	✓		✓				✓							
Hall, R. V., Panyan, M., Rabon, D., & Broden, M. (1968). Instructing beginning teachers in reinforcement procedures which improve classroom control. <i>Journal of Applied Behavior Analysis</i> , 1(1), 315-322.			✓											
Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? <i>Child Development</i> , 76(5), 949-967.	✓	✓												✓
Hansen, S. D., & Lignugaris/Kraft, B. (2005). Effects of a dependent group contingency on the verbal interactions of middle school students with emotional disturbance. <i>Behavioral Disorders</i> , 30(2), 170-184.			✓						✓					
Hawkins, V. C., & Catalano, R. F. (1991). Reducing early childhood aggression: Results of a primary prevention program. <i>Journal of the American Academy of Child &amp; Adolescent Psychiatry</i> , 30(2), 208-217.	✓	✓	✓			✓	✓		✓					
Horner, R. H., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esperanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. <i>Journal of Positive Behavior Interventions</i> , 11(3), 133-144.	✓		✓		✓								✓	
Ialongo, N., Poduska, J., Werthamer, L., & Kellam, S. (2001). The distal impact of two first-grade preventive interventions on conduct problems and disorders in early adolescence. <i>Journal of Emotional &amp; Behavioral Disorders</i> , 9(3), 146-161.	✓		✓		✓	✓								
Ialongo, N., Werthamer, L., Kellam, S. G., Brown, C. H., Wang, S., & Lin, Y. (1999). Proximal impact of two first-grade preventive interventions on the early risk behaviors for later substance abuse, depression, and anti-social behavior. <i>American Journal of Community Psychology</i> , 27(5), 599-641.			✓		✓	✓								
Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. <i>Urban Education</i> , 40(3), 237-269.						✓								



Classroom management strategies

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	Rules	Routines	Praise	Engagement	Misbehavior	Parental involvement	Least disruptive	Academic interventions	Teaching students problem solving, social skills	Teaching students to self-monitor	Peer monitoring & peer tutoring	Physical environment	School-wide behavior plan	Other
Kastelen, L., Nickel, M., & McLaughlin, T. F. (1984). A performance feedback system: Generalization of effects across tasks and time with eighth-grade English students. <i>Education &amp; Treatment of Children</i> , 7(2), 141-155.			✓											
Kelley, M. L., & Stokes, T. F. (1984). Student-Teacher Contracting with goal setting for maintenance. <i>Behavior Modification</i> , 8(2), 223-244.			✓							✓				
Kern, L., Childs, K. E., Dunlap, G., Clarke, S., & Falk, G. D. (1994). Using assessment-based curricular intervention to improve the classroom behavior of a student with emotional and behavioral challenges. <i>Journal of Applied Behavior Analysis</i> , 27(1), 7-19.				✓						✓				
Kohler, F. W., Crilley, K. M., Shearer, D. D., & Good, G. (1997). Effects of peer coaching on teacher and student outcomes. <i>The Journal of Educational Research</i> , 90(4), 240-250.				✓							✓			
Lohrmann, S., & Talerico, J. (2004). Anchor the boat: A classwide intervention to reduce problem behavior. <i>Journal of Positive Behavior Interventions</i> , 6(2), 113-120.	✓		✓											
Main, G. C., & Munro, B. C. (1977). A token reinforcement program in a public junior-high school. <i>Journal of Applied Behavior Analysis</i> , 10(1), 93-94.			✓											
Montague, M., Enders, C., & Castro, M. (2006). Academic and behavioral outcomes for students at risk for emotional and behavioral disorders. <i>Behavioral Disorders</i> , 31(1), 84-94.														✓
Reid, R., Gonzalez, J. E., Nordness, P. D., Trout, A., & Epstein, M. H. (2004). A meta-analysis of the academic status of students with emotional/behavioral disturbance. <i>The Journal of Special Education</i> , 38(3), 130-143. <sup>4</sup>														
Sasso, G. M., Reimers, T. M., Cooper, L. J., Wacker, D., Berg, W., Steege, M., Kelly, L., & Allaire, A. (1992). Use of descriptive and experimental analysis to identify the functional properties of aberrant behavior in school settings. <i>Journal of Applied Behavior Analysis</i> , 25(4), 809-821.			✓		✓									
Schuldheisz, J. M., & van der Mars, H. (2001). Active supervision and students' physical activity in middle school physical education. <i>Journal of Teaching in Physical Education</i> , 21, 75-90.							✓							

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Sutherland, K. S., Wehby, J. H., & Copeland, S. R. (2000). Effect of varying rates of behavior-specific praise on the on-task behavior of students with EBD. *Journal of Emotional and Behavioral Disorders*, 8(1), 2-8.

van Lier, P. A. C., Muthen, B. O., van der Sar, R. M., & Crijnen, A. A. M. (2004). Preventing Disruptive Behavior in Elementary Schoolchildren: Impact of a Universal Classroom-Based Intervention. *Journal of Consulting and Clinical Psychology*, 72(3), 467-478.

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2004). Treating children with early-onset conduct problems: Intervention outcomes for parent, child, and teacher training. *Journal of Clinical and Adolescent Psychology*, 33(1), 105-124.

Williams, R. L., & Anandam, K. (1973). The effect of behavior contracting on grades. *The Journal of Educational Research*, 66(5), 230-236.

Yarbrough, J. L., Skinner, C. H., Lee, Y. J., & Lemmons, C. (2004). Decreasing transition times in a second grade classroom. *Journal of Applied School Psychology*, 20(2), 85-107.

Studies on strategies with STRONGER aggregated research support					Studies on strategies with MODERATE or LIMITED aggregated research support								
Rules	Routines	Praise	Engagement	Misbehavior	Parental involvement	Least disruptive	Academic interventions	Teaching students problem solving, social skills	Teaching students to self-monitor	Peer monitoring & peer tutoring	Physical environment	School-wide behavior plan	Other
		✓	✓										
✓		✓		✓									
		✓		✓	✓	✓		✓					
✓	✓	✓		✓									
	✓	✓		✓									



Fig. 18 Studies that do NOT meet NCTQ's or IES's study design standards

**Studies were not reviewed for classroom management strategies**

Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good behavior game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis*, 2(2), 119-124.

Brantley, D. C., & Webster, R. E. (1993). Use of an independent group contingency management system in a regular classroom setting. *Psychology in the Schools*, 30, 60-66.

Broussard, C. D., & Northup, J. (1995). An approach to functional assessment and analysis of disruptive behavior in regular education classrooms. *School Psychology Quarterly*, 10(2), 151-164.

Fox, R. M., & Shapiro, S. T. (1978). The timeout ribbon: A nonexclusionary timeout procedure. *Journal of Applied Behavior Analysis*, 11(1), 125-136.

Fuchs, D., Fuchs, L. S., Thompson, A., Al Otaiba, S., Yen, L., Yang, J. J., Braun, M., & O'Connor, R. E. (2002). Exploring the importance of reading programs for kindergarteners with disabilities in mainstream classrooms. *Exceptional Children*, 68(3), 295-311.

Hall, R. V., Lund, D., & Jackson, D. (1968). Effects of teacher attention on student behavior. *Journal of Applied Behavior Analysis*, 1(1), 1-12.

Jones, R. T., & Kazdin, A. E. (1975). Programming Response Maintenance after withdrawing token reinforcement. *Behavior Therapy*, 6, 153-164.

Lannie, A. L., & McCurdy, B. L. (2007). Preventing disruptive behavior in the urban classroom: Effects of the Good Behavior Game on student and teacher behavior. *Education and Treatment of Children*, 30(1), 85-98.

Lewis, T. J., & Sugai, G. (1993). Teaching communicative alternatives to socially withdrawn behavior: An investigation in maintaining treatment effects. *Journal of Behavioral Education*, 3(1), 61-75.

Madsen, C. H., Jr., Becker, W. C., & Thomas, D. R. (1968). Rules, praise, and ignoring: Elements of elementary classroom control. *Journal of Applied Behavior Analysis*, 1(2), 139-150.

McAllister, L. W., Stachowiak, J. G., Baer, D. M., & Conderman, L. (1969). The application of operant conditioning techniques in a secondary school classroom. *Journal of Applied Behavior Analysis*, 2(4), 277-285.

McCullagh, J., & Vaal, J. (1975). A token economy in a junior high school special education classroom. *School Applications of Learning Theory*, 7(2), 1-8.

Mueller, M. M., Edwards, R. P., & Trahan, D. (2009). Translating multiple assessment techniques into an intervention selection model for classrooms. *Journal of Applied Behavior Analysis*, 36(4), 563-573.

Schunk, D. H. (1983). Reward contingencies and the development of children's skills and self-efficacy. *Journal of Educational Psychology*, 75, 511-518.

Sharpe, T., Brown, M., & Crider, K. (1995). The effects of a sportsmanship curriculum intervention on generalized positive social behavior of urban elementary school students. *Journal of Applied Behavior Analysis*, 28(4), 401-416.

Sheridan, S. M., Eagle, J. W., Cowan, R. J., & Mickelson, W. (2001). The effects of conjoint behavioral consultation: Results of a 4-year investigation. *Journal of School Psychology*, 39(5), 361-385.

Sugai, G., Sprague, J. R., Horner, R. H., & Walker, H. M. (2000). Preventing school violence: The use of office discipline referrals to assess and monitor school-wide discipline interventions. *Journal of Emotional and Behavioral Disorders*, 8(2), 94-101.

Van Houten, R., & McKillop, C. (1977). An extension of the effects of the performance feedback system with secondary school students. *Psychology in the Schools*, 14(4), 480-484.

White-Blackburn, G., Semb, S., & Semb, G. (1977). The effects of a good behavior contract on the classroom behaviors of sixth-grade students. *Journal of Applied Behavior Analysis*, 10(2), 312.

Wilcox, R., Newman, V., & Pitchford, M. (1988). Compliance training with nursery children. *Educational Psychology in Practice*, 4(2), 105-107.

Winett, R. A., & Vachon, E. M. (1974). Group feedback and group contingencies in modifying behavior of fifth graders. *Psychological Reports*, 34, 1283-1292.

Yawkey, T. D. (1971). Conditioning independent work behavior in reading with seven-year-old children in a regular early childhood classroom. *Child Study Journal*, 2(1), 23-34.