The Effects of Tootling Combined with Public Posting in High School Classrooms

Sarah Joan Wright
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THE EFFECTS OF TOOTLING COMBINED WITH PUBLIC POSTING IN HIGH SCHOOL CLASSROOMS

by

Sarah Joan Wright

A Thesis
Submitted to the Graduate School
and the Department of Psychology
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Master of Arts

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December 2016
ABSTRACT

THE EFFECTS OF TOOTLING COMBINED WITH PUBLIC POSTING IN HIGH SCHOOL CLASSROOMS

by Sarah Joan Wright

December 2016

A traditional tootling procedure was implemented along with a public posting component to determine the effects on academically engaged, disruptive, and passive off task behaviors in four general education high school classrooms. The study employed an A/B/B+C multiple baseline design across classrooms. The primary focus of the study was to assess potential increases in academically engaged behavior. Students in the traditional tootling phase (B) were instructed to report on their peers’ positive, prosocial behaviors. At the end of the class period, the teacher read through the tootles and added the total toward the group goal. When the class achieved their goal, they were rewarded and the goal was reset. During the B+C phase, which incorporated traditional tootling with public posting, the teacher or primary researcher posted the tootles on a designated bulletin board. The results indicated that increases in academically engaged behaviors were maintained in both B and B+C phases, whereas disruptive and passive off task behaviors decreased. The differences between phase B and B+C were minimal, if any, suggesting that traditional tootling alone is effective. Social validity measures were assessed and the intervention was found to be acceptable in terms of effectiveness and utility. This study suggests the benefits of implementing tootling in a high school setting, demonstrating increases in classwide academically engaged behaviors.
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DEDICATION

I would to thank my parents, Bruce and Janice Wright for their constant support throughout my graduate school experience. Their encouragement and investment allowed me to even get to where I am today. Daily overwhelmed by the blessing they both are to me. Thank you for your wisdom and prayers throughout this process.

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Finally this is all possible because of Jesus Christ. I don’t know how I ended up where I did or why, but His sovereign grace has been my guide through it all.
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CHAPTER I - INTRODUCTION

Students engaging in disruptive behaviors in the classroom can inhibit learning and produce negative outcomes for both students and teachers (Lane, 2007). The National Center for Education Statistics (2008) reported that 36% of public school teachers felt disruptive behaviors hindered classroom teaching. Disruptive behavior in the classroom not only interferes with the offending student’s academic success, but also with the academic success of their classmates (Lannie & McCurdy, 2007). With the recent implementation of the No Child Left Behind Act and the Individuals With Disabilities Education Act in 2004, greater pressure is on the education system to increase classroom performance for students (George, White, & Schlaffer, 2007). Ideally, teachers should have at their disposal a variety of effective classroom interventions to increase academic engagement while decreasing disruptive behaviors.

When disruptive behaviors occur teachers and administrators often turn to punishment procedures to correct the problem (Skinner, Cashwell, & Skinner, 2000). Winett and Winkler in 1972, focused on appropriate behaviors in a school setting rather than inappropriate behaviors. Subsequently, Sugai and Horner (2000) extended this idea and concentrated mainly on positive behaviors, thereby providing the impetus and beginnings of School-Wide Positive Behavior Interventions and Supports (SWPBIS) in education. The overall goal of SWPBIS is to decrease disruptive behaviors and concentrate on creating a positive school environment for students through various evidence-based behavioral and academic practices (Sugai & Horner, 2000). By design, SWPBIS focuses on making a shift from punitive disciplinary procedures to positive and preventive measures.
Studies have investigated the effects of SWPBIS to benefit school safety, students’ state reading assessment scores, and limit the number of office referrals (Horner et al., 2009). Another recent study showed that when SWPBIS was implemented with integrity, improvements were made in social interactions as well as students’ academic performance, specifically in math (Simonsen et al., 2012). SWPBIS is designed similarly to the Response to Intervention (RtI) framework, in that it is based on a tiered approach. The first level, Tier 1, is intended to serve the needs of a majority of the students in the school (Walker et al., 1996). It typically includes routine teaching procedures and the implementation of school wide disciplinary action. The second level, or Tier 2, is intended to serve students that require further specialized assistance (George et al., 2007). It typically focuses on a smaller number of students with regard to tutoring or in small group settings. The third level, or Tier 3, is intended to serve students who regularly have behavioral issues in the classroom and prior efforts through the first two levels have not been effective in creating change, therefore even more individual treatment is needed (Walker et al., 1996).

One benefit of SWPBIS is the amount of time saved through its implementation (Scott & Barrett, 2004). It was found that roughly 79 days of instructional time were saved by implementing SWPBIS, and by its second year, the school saved $9,917.74. This is a theoretical value indicative of the amount of time administrators and teachers are able to attend to other contractual responsibilities and not spend as much time addressing office discipline referrals. Ross, Romer, and Horner (2012) also suggested that if an elementary school implements SWPBIS with high integrity, the teacher burnout rate is significantly lower in comparison to national norms. Some individuals, such as
administrators or teachers, may argue that implementing SWPBIS could be burdensome or take time for the payoffs to be evident; however, Bradshaw, Reinke, Brown, Bevans, and Leaf (2008) found that if done with proper training and high integrity, SWPBIS could be implemented within a year. The focus on positive behavior interventions can prove effective with regard to time and also model appropriate behavior that is ideally seen in a school setting. SWPBIS arguably has a variety of benefits on a school wide level, but when focusing on a classroom setting, an examination of peer-mediated interventions is necessary as well and is discussed in the following section.

Peer-Mediated Interventions

Peer-mediated interventions are one empirically based method to utilize students to promote behavior change (e.g. peer-tutoring for academic concerns or peer-monitoring for behavioral concerns). These interventions are implemented between a child who functions within a similar level of ability to another target peer and is able to learn instructional intervention to implement (Odom & Strain 1984). The focus of this type of behavioral intervention is to maximize upon the abundant resource (i.e. students) found in the class to alleviate teacher distraction from instructional time. Researchers have investigated peer-mediated interventions that can be efficient alternatives when considering the demands placed upon teachers throughout the day and their inability to directly observe all forms of behavior that occur with their students (Skinner, Neddenriep, Robinson, Ervin, & Jones, 2002). It is inevitable that teachers will miss some, if not most, of a student’s behavior because of the demands on their time across other classroom needs. Peer-mediated interventions are an appealing option to address
such issues, and research suggests they can result in increased academic performance in the classroom.

Dufrene, Noell, Gilbertson, and Duhon (2005) investigated elementary school students’ fidelity with peer tutoring. Results suggested that peers were able to implement interventions with high integrity, ultimately benefiting teachers by taking away less time from instruction and focusing on peer-mediated interactions and intervention methods. The researchers also noted that if students were not implementing a procedure correctly, improvement was found after providing them with performance feedback. Menesses and Gresham (2009) provided evidence that at-risk academic students are able to tutor one another successfully enough to improve their math grade. Fuchs, Fuchs, and Kazdan (1999) also demonstrated improvements in reading comprehension in high school remedial and special education classrooms when peers gave additional support to each other.

Peer-mediated interventions have also been used to address behavioral concerns in the classroom. Carden-Smith and Fowler (1984) found that peers may be influenced by positive peer pressure. The study was designed to see if students in a remedial kindergarten classroom could serve as behavior monitors to their peers. Students selected as classroom “monitors” rewarded their peers with a token when they witnessed appropriate behaviors. The results ultimately showed that this was a successful peer-mediated intervention as disruptive behaviors decreased when compared with baseline levels. Jones, Young, and Friman (2000) also found that teenagers who had been social outcasts were influenced by their peers to increase prosocial behaviors. Thus, peer-mediated interventions can have significant impacts on both academic and behavioral
concerns, while simultaneously transitioning some of the responsibility and time
demands from the classroom teacher. Peer-mediated interventions have been empirically
shown to be of benefit. The following section reviews studies of a specific peer-mediated,
positive peer reporting intervention, known as “Tootling”, used in classrooms.

Tootling

Tootling is a peer-mediated classwide intervention in which students report their
peers’ positive, prosocial classroom behavior, developed by Skinner, Skinner, and
Cashwell (1998). The name of the intervention is based on the saying, “tooting your own
horn” and is a positive variation of tattling (Skinner et al., 2000, p. 265). The overall
concept of tootling was for students to report anonymously the prosocial behavior of their
peers in a classroom setting. When a student witnessed their peers engaging in a positive
behavior, it was reported on a note card and collected in a marked container (Skinner et
al., 1998). The classroom teacher read the tootles aloud at the end of each day to provide
feedback and praise to students.

In 2000, Skinner et al. conducted the first peer-reviewed investigation of tootling
and incorporated an interdependent group contingency to determine if students would
increase their total amount of tootling. The study was done in a fourth-grade general
education classroom using an A-B-A-B withdrawal design. During baseline, students
were instructed on the tootling procedures with writing tootles and placing them in a box
displayed at the back of the classroom. The teacher also explained a variety of examples
of appropriate and inappropriate tootles that would (or would not) be counted toward the
goal and to ensure the intervention was implemented effectively. Each day when students
entered the classroom they had a note card taped to their desk that followed a “who”,

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“what”, and “for whom” format. Once students understood the concept of tootling, they were encouraged to continue reporting on their peers’ prosocial behavior.

When the intervention began the students had a goal of reaching 100 tootles to receive a prize, which was decided by a classwide preference assessment, earning 30 extra minutes of recess. The teacher displayed a poster board in front of the classroom showing how many tootles had been produced and how far the class was from reaching their total tootling goal. The publicly posted board also served as a reminder to students to report their peers’ prosocial behavior (i.e., tootles). The goal was met on the seventh session, and the class was given a day off from tootling and received their reward.

Following their day off, a new goal was set, which increased the amount of tootles to 150 to earn a second reward. Again, the previous day’s tootle total was announced each morning and the cardboard icon moved closer to the goal each day. A withdrawal phase lasted for three days and tootling continued, however there was no contingency in place for the tootling. In the final intervention phase, a new goal of 150 was set with the potential reward of watching a movie.

The results were quite variable for the amount of tootles produced during the initial baseline and intervention phases. In the second baseline the total number of tootles was near zero. During the final intervention phase the number of tootles, though variable as well, was higher than seen in the initial intervention phase. The authors suggested that there was a confound present based on an announcement made by the principal to take away the class’s recess time due to unreturned library books, which may have affected the students’ motivation to reach the tootling goal. The study also had no treatment integrity assessment in place, which is a threat to the internal validity of the methods.
Nonetheless, the researchers demonstrated some evidence that tootles increased when a group contingency with public feedback was added.

In 2001, Cashwell, Skinner, and Smith replicated and extended Skinner et al. (2000) in a second-grade classroom to demonstrate that tootling could be maintained and increased when an interdependent group contingency and public posting were utilized. Using similar procedures as in Skinner et al. (2000), results indicated that variability was present in all phases of the A-B-A-B design, but increases in tootling were evident in both intervention phases, especially when compared with the withdrawal phase during which there were near zero levels of tootling. Again, results indicated that during the intervention phases an increase in the amount of tootles was present. However, although tootling increased peer reporting of prosocial behavior, no evidence could be provided that tootling resulted in improvements in actual behavior because it was not measured.

Following Cashwell et al. (2001), no additional literature was contributed to the tootling intervention until Cihak, Kirk, and Boon (2009) investigated tootling with a new perspective. Previous literature on tootling focused simply on increasing the amount of tootles produced as the dependent variable. Cihak et al. (2009), however, sought to determine if tootling had a specific effect on decreasing subsequent classwide disruptive behavior. The study was done with students with and without disabilities in a third-grade general education classroom. The dependent variable was disruptive behavior, defined as any motor behavior that conflicted with other students’ studying, being out of seat without teacher permission, and talking out. An A-B-A-B design was used to assess tootling’s effect on disruptive behavior. During baseline the teacher wore a bracelet that contained the initials of all students in class to track disruptive behavior. Students were
then trained on the tootling procedures and were required to write three successful tootles prior to implementation of the intervention.

Once the intervention began, note cards were placed on the students’ desks each morning and the procedures were reiterated as a reminder. Students were encouraged to write tootles throughout the day and place them in a container on the teacher’s desk during routine transition times. During the last 20 minutes of class the teacher read aloud the tootles and announced the total received for the day. The classwide goal was set at 75 tootles and once reached, the class was rewarded with extra recess time. Following ten sessions, the classroom entered the second baseline phase for three days, and then intervention was subsequently reimplemented for another five days. The data clearly showed lower levels of disruptive behavior during intervention phases compared to baseline and withdrawal phases. However, although there was a decrease in disruptive behavior, the authors noted that these results were obtained with tootling combined with public posting and a group contingency. It is unknown if such decreases in disruptive behaviors were due solely to tootling.

Lambert, Tingstrom, Sterling, Dufrene, and Lynne (2015) sought to replicate and extend the study by Cihak et al. (2009) by assessing the effects of tootling on classwide disruptive as well as appropriate behavior and by having independent observers collect data on the dependent variables rather than the classroom teacher. An A-B-A-B design with a multiple baseline element and a follow-up phase was implemented across a fourth- and fifth-grade classroom. As with previous tootling studies (Skinner et al., 2000; Cashwell et al., 2001; Cihak et al., 2009), tootling procedures were combined with an interdependent group contingency and publicly posted feedback. Students worked
together to achieve a classroom goal of tootles to achieve a reward. Students received note cards each day, had a container in which to place their written tootles, and a dry erase board with a picture of a thermometer to show students their progress toward their tootling goal. Each classroom’s goal continually increased as they reached the prior criterion. Criteria were initially set at 65 tootles for both classrooms, and later increased. The primary dependent variable, classwide disruptive behavior, consisted of out of seat, inappropriate vocalizations, and touching objects. A secondary dependent variable, classwide appropriate behavior, was defined as actively engaged or attending to the task at hand. Behaviors were observed using 20 minute observations with 10-second momentary time sampling recording.

Following the first intervention phase, all tootling materials and procedures were withdrawn. Subsequently, the classroom entered the last intervention phase and all materials (i.e. note cards, container, and dry erase board) and procedures were reintroduced. Follow-up observations occurred two weeks after the final intervention phase, during which teachers were free to continue the implementation of tootling or discontinue it in their classroom; both teachers continued the intervention during follow-up.

Lambert et al. (2015) found increases in classwide appropriate behavior and decreases in disruptive behavior for both classrooms. Both classrooms demonstrated decreases in classwide disruptive behavior during both intervention phases as well as during follow-up, compared to baseline and withdrawal phases. Likewise, both classrooms showed increases in classwide appropriate behavior across intervention phases and follow-up compared to baseline and withdrawal phases. In addition,
acceptability was high as rated by both teachers and they continued to use the intervention after no longer obligated. The researchers indicated that one of the main limitations was that teacher integrity fell below 80% on a couple of occasions, as deviations were made from the tootling procedures; however, the intervention was effective. Because it consisted of several components (positive peer reporting, publicly posted feedback, group contingency), it is unclear which component or combination of components produced these improvements in classwide behavior. Lambert et al. (2015) suggested that future research investigate tootling with different age groups of students, such as middle or high school students.

Lambert (2014) expanded on Lambert et al. (2015) with upper-elementary and middle school students (two sixth-grade and one seventh-grade classrooms) and included a target student in each classroom to assess both the classwide effects of tootling as well as its effects with individual students. The procedures and measures were similar as in Lambert et al. (2015) with the addition of the three target students. Classwide and target student behavior was monitored throughout the study. Again, results were similar to previous studies (Cihak et al., 2009; Lambert et al., 2015), showing that tootling, along with publicly posted feedback and an interdependent group contingency, decreased classwide disruptive behavior and increased classwide appropriate behavior. The target students’ behavior also followed a similar pattern with decreases in disruptive and increases in appropriate behavior. The intervention again received high acceptability ratings from the teachers as well as the target students, although more variability was present.
McHugh, Tingstrom, Radley, Barry, and Walker (2016) extended the tootling literature by demonstrating decreases in classwide disruptive behavior and increases in academically engaged behavior and for target students using daily reinforcement (i.e. setting a tootling goal that could be reasonably achieved each day). In addition to tootling, public posting of feedback and an interdependent group contingency were in place as in previous studies of tootling. The study was conducted using an A-B-A-B design in three elementary school classrooms, two third-grade and one second-grade. Each classroom had a picture of a thermometer that showed the amount of tootles accumulated for that day and was erased to meet a new goal at the end of the day. Classroom A had a daily goal of 30 tootles, Classroom B had a daily goal of 25 tootles, and Classroom C had a daily goal of 30 tootles.

The results for this study showed that overall disruptive behaviors decreased and academically engaged behavior increased during intervention phases for the three classrooms as well as for the target students. The daily reinforcement component did not adversely impact the behavior and produced similar results as previous methods using delayed reinforcement (Cihak et al., 2009, Lambert, 2014, Lambert et al., 2015). Acceptability of the intervention from all classroom teachers was high.

Most recently, Lum, Tingstrom, Dufrene, Radley, and Lynne (in press) extended the tootling literature by investigating the effects of tootling in a high school setting. No previous studies had attempted to use tootling with high school students. An A-B-A-B withdrawal design and a two-week follow-up was used to assess the effects of tootling on classwide disruptive and academically engaged behaviors. Consistent with previous studies of tootling, Lum et al. (in press) found increases in classwide academically
engaged behavior and decreases in disruptive behavior across all three classrooms. The teachers rated the intervention moderate to high in social validity, yet none of the teachers were using the intervention at follow-up.

Group public posting of submitted tootles in the classroom is one of the basic components of the tootling intervention and a main extension of the present study on the tootling literature is the implementation of individual public posting. Therefore, the following section briefly discusses some of the relevant literature on public posting and the need for additional research in this area with regard to its effect on behavior in classroom settings.

Public Posting

Public posting is a topographical procedure used to provide performance feedback to an individual following demonstration of a specific skill (Van Houten, Morrison, Jarvis, & McDonald, 1974). Regardless of the setting, performance feedback allows an individual to gain knowledge about an aspect of their behavior and how to improve or maintain their behavior in the future. The literature has investigated public posting in a variety of settings, however there is limited research that targets the classroom specifically. An early study conducted by Hall, Cristler, Cranston, and Tucker (1970) investigated students’ tardiness to class through public posting and aspects of public posting that exist in other school settings, however little research has used public posting as a primary independent measure.

Public posting has also been investigated to determine the influence it can have on students’ academic achievement. In 1974, Van Houten et al., assessed the number of words elementary students could write in a ten-minute interval while using public
posting, timing, and feedback. The results showed that the class doubled their average written words with the intervention components; when the public posting was removed, the students’ performance decreased and was consistent with baseline levels. These findings suggest that the intervention was successful, however it is difficult to determine which specific component(s) (e.g., public posting, timing, or feedback) accounted for the behavior change.

Although some studies of public posting’s effects on academic performance and attendance rates have been conducted in school settings, there has been a limited focus of public posting’s effects on behavior in the classroom. Holland and McLaughlin (1982) investigated public posting on disruptive behaviors that occurred in multiple settings in the school (e.g., hallway, bathroom, classroom, and library). When the intervention was implemented disruptive behavior decreased from baseline with a mean frequency of occurrence of 31.6 in the primary classrooms to a mean frequency of occurrence of 4.6. Baseline frequency data averaged 33.3 of occurrences in the intermediate classrooms and following intervention frequency averaged 5.5 of occurrences. The follow-up phase also indicated maintenance of the behavior with the primary classrooms’ frequency averaging 6.0 occurrences and intermediate classrooms’ frequency averaging 6.5 occurrences.

Another study investigated the use of public posting to decrease disruptive behaviors exhibited in the hallway with 250 secondary students (Staub, 1990). Staub used an ABACBC design to examine disruptive behavior (e.g., physical and verbal aggression, along with running), noise level, and number of detentions students had accumulated. The A phase was a traditional baseline, the B phase included public posting, and the C phase included public posting combined with verbal feedback and praise. Disruptive
behavior occurred during 63% of intervals during baseline, with an immediate decrease during phase B, with disruptive behaviors occurring in 42.3% of intervals. During phase C, disruptive behaviors occurred in 26.5% of intervals. Again this study demonstrates the effects of public posting on promoting behavior change, yet further investigation is needed to determine public posting’s effect for behaviors in the classroom.

Purpose of Present Study

The need for effective behavioral management interventions in the classroom is imperative to the overall learning environment for students. Based on the amount of time students spend in school it can become a challenge for students to exhibit and maintain appropriate behavior throughout the day. The present study focuses on combining intervention components to enable students to encourage their peers’ academically engaged behavior through traditional tootling procedures in combination with public posting of individuals receiving tootles. In the traditional tootling procedure, the teacher reads approximately five randomly chosen tootles at the end of the day or period (Skinner et al., 2000; Cashwell et al., 2001; Cihak et al. 2009). Such a procedure potentially results in a number of students not publicly recognized perhaps for many days until the tootle written about their positive behavior is randomly selected. One purpose of the present study was to investigate these intervention components to determine the extent to which public posting of all individuals receiving tootles may or may not enhance the effects of traditional tootling procedures.

This investigation is necessary to extend the literature on these components and further understand the implications they may have for tootling. As previous literature has shown, tootling has increased the number of tootles written (Cashwell et al., 2001;
Skinner et al., 2000), decreased the amount of disruptive behavior in the classroom (Cihak et al., 2009; Lambert, 2014; Lambert et al., 2015; McHugh et al., 2016), and increased appropriate behavior or academic engagement (Lambert, 2014; McHugh et al., 2016; Lambert et al., 2015; Lum et al., in press). However, none of the studies thus far have specifically included academically engaged behavior as the primary dependent variable, which is arguably a limitation. Lum et al. was the first study to implement tootling in a high school setting, however the primary dependent variable was disruptive behavior and the effect sizes found for academically engaged behavior were mostly weak to moderate. Based on the results of Lum et al.’s academically engaged behavior, it seemed to suggest there was potential to compensate tootling with an additional component to improve effect size levels. Since the goal of tootling is to increase prosocial behaviors and the goal of most interventions should be to increase academically engaged behavior in the classroom. When disruptive behavior is decreased, there may not be a concomitant increase in academically engaged behavior (i.e., passive off-task is neither disruptive nor academic engagement). This study seeks to investigate the effects of traditional tootling procedures as well as the potential contributions of performance feedback via public posting of all individuals receiving tootles on classwide academically engaged behavior and disruptive behavior.

The present study will address the following research questions:

1. Does traditional tootling in a high school setting increase classwide academically engaged behavior?

2. Does traditional tootling in a high school setting decrease classwide disruptive behavior?
3. Does traditional tootling in a high school setting in combination with public posting of all individuals receiving tootles increase classwide academically engaged behavior when compared to traditional tootling alone?

4. Does traditional tootling in a high school setting in combination with public posting of all individuals receiving tootles decrease classwide disruptive behavior when compared to traditional tootling alone?

5. Will general education classroom teachers and students in a high school setting evaluate tootling in combination with public posting of all individuals receiving tootles as an acceptable intervention and socially valid?
CHAPTER II – METHOD

Participants and Setting

This study included four general education high school classrooms from a southeastern state based on referrals from teachers concerned with behavioral problems and classroom management. The high school was located in a rural setting and historically known for its agricultural focused curriculum and on-campus dormitories. Presently the school is publically run within its own district. It continues to offer agricultural classes as electives however, and on-campus living is no longer an option to students. The school is structured on a block schedule, with students rotating between four different classes during the day, each approximately 90 minutes in length. Classes are taught in a manner where content provided during a semester is equivalent to a year long class in shorter durations. The student body consisted of almost 600 students, with 68% receiving free or reduced lunch.

Permission to conduct the study was initially obtained from the University’s Institutional Review Board, which approved all procedures and methods of the study (Appendix A). Following IRB approval, permission was obtained from the high school’s administration to conduct the study in four general education classrooms (Appendix B). Teacher self-referral to participate in the study occurred soon after approval was granted. Each classroom had to qualify for the study based on a criterion, whereby the overall classroom’s academically engaged behavior had to occur during less than 70% of intervals during a screening observation, suggesting that these classrooms were in need of additional classroom supports. All four classrooms met the criterion for inclusion in the study, therefore informed consent from each teacher was obtained to inform them of the
procedures of the intervention and explain their rights and obligations during the study (Appendix C). Additionally, classroom teachers were asked to complete a basic demographic sheet (e.g., highest degree earned, years of experience, race, gender) as well as demographics of their classrooms (e.g., number of male/female students, racial make-up, number of students receiving special education services; Appendix D), which were found on the school’s database. Parental consent was also sought for students to complete a social validity measure following the termination of the study (Appendix E).

Classroom A was a general education Algebra I course taught by a Caucasian male in his first year of teaching at the high school, with no previous experience. This course occurred during 3rd block with observations conducted after their lunch break, toward the middle of the block time. Classroom A consisted of 16 students, 4 females and 12 males. Ten of the students were identified as Caucasian, 4 as African American, and 2 as Hispanic. Additionally, 11 of the students were in 9th grade and 5 students were in 10th grade. Three students in Classroom A received individual supports based on an Individualized Education Program (IEP) through the school’s Special Education Department (SPED) in the categories of Specific Learning Disability (SLD), Other Health Impairment (OHI), and Autism (AU).

Classroom B was a general education Contemporary Health course taught by a Caucasian male in his first year of teaching at the high school. He had two previous years of teaching experience, along with a Master’s degree. This course occurred during 1st block with observations conducted in the beginning portion of the block. Classroom B consisted of 18 students, 13 females and 5 males. Nine of the students were identified as Caucasian, 7 as African American, and 2 as Hispanic. Additionally, 6 students were in 9th
grade, 9 students in 10th grade, and 3 were in 11th grade. None of the students in this class were receiving individual supports through SPED.

Classroom C was a general education Biology course taught by a Caucasian female with seven years of teaching experience at the high school. She also had a Master’s degree in Secondary Education. This course occurred during 2nd block with observations conducted in the beginning portion of the block. Classroom C consisted of 17 students, 8 females and 9 males. Eight of the students were identified as Caucasian and 9 as African American. Additionally, 12 students were in 9th grade and 5 students in 10th grade. Three students in Classroom C received SPED services under the categories of Specific Learning Disability (SLD), Other Health Impairment (OHI), and Autism (AU).

Classroom D was a general education English Literature course taught by a Caucasian male in his first year of teaching at the high school. He had three previous years of teaching experience in a different district. This course occurred during 3rd block with observations conducted in the beginning portion of the block. Classroom D consisted of 20 students, 5 females and 15 males. Ten of the students were identified as Caucasian, 7 as African American, 1 as Asian, 1 as Hispanic, and 1 as Pacific Islander. All of the students were in the 9th grade. Five students in Classroom D received SPED services, with one in the category of Language/Speech Impairments and four students in the category of SLD.

Materials

The researcher provided teachers a script during the tootling training session, which occurred during their planning period or before school, to teach them the
procedures of the intervention (adapted from Lambert (2012); Appendix F). The students were also provided small colored sheets of paper to write down the observed prosocial behaviors in the classroom (i.e., tootles). Teachers had a plastic container with a removable lid on their desk where the students could place their tootles during designated times. The researcher also provided the classroom a poster that displayed a tootling example to remind students of the appropriate format (i.e., ‘who’ with a blank space and ‘did what’ with a blank space) as well as a poster to provide feedback on their progress toward the predetermined goal. These posters remained in place throughout the intervention phases (B and B+C) of the study and a bulletin board was displayed with individual tootles posted during the B+C phase.

**PII**

The experimenter used a modified Problem Identification Interview (PII; Kratochwill & Bergan, 1990; adapted from Lum, 2015; Appendix G) during the initial interview with each teacher, following the screening observation, to determine the three most disruptive behaviors exhibited in the class. Modifications to the PII included shortened length of questions and minor rewording of statements eliminating technical terminology. The PII is a questionnaire form used to identify behaviors of concern in the classroom. Examples of questions on the PII include, ‘In what setting does the problem behavior occur?’ and ‘What procedures have you tried in the past to deal with this problem behavior?’ The psychometric properties of the PII have not been reported, however it is commonly cited as an instrument used in behavioral consultation (Zuckerman, 2005). The experimenter and teacher also determined appropriate times for classroom observations to occur and discussed potential rewards for each class when a
goal was reached. The students then were presented with the list and chose watching a
cmovie and tangibles (candy, chips, and donuts) as their preferred rewards.

*BIRS*

After the intervention was completed, the teachers completed the *Behavior Intervention Rating Scale (BIRS;* Von Brock & Elliott, 1987) to assess their perception of the social validity of the intervention (adapted from Lum, 2015; Appendix H). The teachers rated the intervention as a whole, rather than a specific intervention component. The *BIRS* is made up of 24 items that are rated based on a 6-point Likert scale (i.e. strongly disagree [1] to strongly agree [6]). The *BIRS* measures three factors: acceptability, effectiveness, and time to effectiveness where overall higher scores indicate greater satisfaction with an intervention. According to Elliott and Von Brock Treuting (1991), the total *BIRS* has been found to possess high internal consistency (α = .97) as well as good content and construct validity, as shown through acceptability (α = .97), effectiveness (α = .92), and time (α = .87). Modifications were made to the phrasing of words (i.e. changed the word ‘intervention’ to ‘tootling + public posting’) included on the *BIRS*, however literature indicates that such minor alterations do not significantly impact the overall psychometric properties (Freer & Watson, 1999; Sheridan, Eagle, Cowan, & Mickelson, 2001; Sheridan & Steck, 1995).

*CIRP*

After the intervention was completed, students were asked to complete the *Children’s Intervention Rating Profile (CIRP;* Witt & Elliott, 1985), which assessed their acceptability of the intervention (adapted from Lambert, 2012; Appendix I). Only students for whom written parent permission had been obtained were able to complete the
CIRP. The students’ acceptability of the intervention was based upon the average of the students who complete the CIRP. The CIRP is made up of 6 items that are rated based on a 6-point Likert scale where higher scores indicate greater satisfaction or acceptability of an intervention. According to Witt and Elliott (1985), the CIRP has been found to possess high internal reliability with a Cronbach’s alpha of .89.

Dependent Measures

The primary dependent variable in this study was academically engaged behavior (AEB). A major purpose of the intervention was to increase prosocial behaviors and students’ awareness of their occurrence. AEB was operationally defined as the student actively or passively attending to the task demand required by the teacher (i.e. reading assigned text, writing down notes, listening to teacher, etc.).

A secondary dependent variable in this study was disruptive behavior (DB). Following interviews with each classroom teacher, the three most frequently occurring behaviors that interfered with their classroom management were playing with objects, inappropriate vocalizations, and out of seat behaviors. Playing with objects was operationally defined as occupying oneself with any stimuli unrelated to the task assigned (i.e. playing with hair, using cell phone, or tapping a pencil). Inappropriate vocalization was operationally defined as any form of communication that was unrelated to the task assigned (i.e. talking with a neighbor, answering a question without raising their hand, or singing along to song they were listening to on their phone). Out of seat was operationally defined as anytime a student’s buttocks were no longer in contact with their seat without teacher permission (i.e. wandering classroom, standing up, or throwing something away unrelated to the task). Another secondary dependent variable in this
study was passive off-task (POT). This was defined as any passive or inattentive behavior of not attending to the task at hand in an academically engaged manner, but does not constitute disruptive behavior. POT included sleeping, putting head down on desk, or staring off in a direction other than toward the teacher. These three dependent variables accounted for all intervals of the observations as they were mutually exclusive and addressed any variety of behavior exhibited in the classroom.

Data Collection

Data were collected during 20-minute observations with a 10-second momentary time sampling procedure (Appendix J) with observers in the back of the classroom or in an unobtrusive location. Observations typically occurred approximately three to fives times per week. In comparison to other time sampling methods (i.e. partial or whole interval), momentary time sampling has been found to give the best representation of behavior and gives rise to less observer error (Green, McCoy, Burns, & Smith, 1982; Radley, O’Handley, & LaBrot, 2015). A timer was used to cue observers for every 10 second interval. The observations occurred in a predetermined pattern around the classroom (i.e., Individual Fixed) starting with one student and momentarily observing if they were exhibiting academically engaged, disruptive, or passive behaviors (Briesch, Hemphill, Volpe, & Daniels, 2015). Once one student’s behavior had been recorded, a different student was observed during the next interval in a fixed, predetermined pattern. After all of the students had been observed in the classroom, the pattern repeated with the student initially observed until the observation was completed. The classwide percentage of intervals of occurrence of each dependent variable (i.e., AEB, DB, POT) was
computed by dividing the total number of intervals of occurrence by the total number of intervals observed and multiplying by 100.

Design

The study used a multiple baseline design with an A/B/B+C condition sequence across four general education high school classrooms to investigate the effectiveness of traditional tootling and tootling in combination with individual public posting (Cooper, Heron, & Heward, 2007). The A phase was a baseline condition with no intervention present and the classroom functioning according to its normal routine. The B phase was the use of traditional tootling procedures, and the final phase (B+C) combined traditional tootling procedures with public posting. Each phase, following baseline, investigated how effective the intervention was in increasing academically engaged behavior and decreasing disruptive and passive off-task behavior. This type of design gives strong evidence that the independent variable is creating a change in behavior when baseline continues in one classroom while intervention is implemented in another classroom. The multiple baseline design also does not withdraw treatment. This type of design is based on the logic of prediction, verification, and replication (Cooper et al., 2007).

Academically engaged behavior was initially observed in all classrooms during baseline until a stable or decreasing trend was present. When Classroom A’s AEB baseline data were stable or decreasing in trend, intervention was implemented while the other classrooms (B, C, and D) continued in baseline. Following a clear treatment effect in phase B in Classroom A, intervention (Phase B) was then implemented in Classroom B. During this time, Classroom A continued in phase B as well as Classroom B, while Classrooms C and D continued in baseline to verify that behavior would remain
unchanged until intervention was applied. Following a clear treatment effect in Classroom B, Classroom C began intervention and Classroom D continued in baseline. Finally, Classroom D was introduced to tootling when a clear treatment effect was evident for Classroom C. This same pattern was used to move from phase B to phase B+C.

Procedures

Screening

Following consultation with teachers and receiving consent to participate in the study, classrooms were observed to determine if they met screen-in criterion. During the screening observation no intervention was in place and classrooms had to demonstrate AEB less than 70% of the intervals to participate in the study. All classrooms met the criterion.

Baseline

Baseline data were collected on AEB, DB, and POT for at least five sessions in each classroom prior to teacher training and intervention implementation (Kratochwill et al., 2010). During baseline, teachers followed their normal classroom routine and behavior management procedures with no components of tootling in place.

Teacher and Student Training

Following baseline sessions, the teachers were trained using a script (Appendix F) for the tootling procedures, which took approximately 30 minutes. During training, the researcher reviewed and modeled the intervention steps to the teacher and then answered questions the teacher(s) had, if any. For two of the classrooms (B and D), the teacher performed the steps themselves in the presence of the researcher to ensure they
understood the script. Due to time constraints, Classrooms A and C were unable to perform the steps, however the researcher ensured questions were answered and steps were understood clearly. The researcher then provided feedback to the teacher and answered questions prior to the teacher training their students. The researcher and teacher also discussed a list of feasible rewards that the class could earn after reaching the criterion number of tootles.

Students were then trained by the teacher, which took approximately 20 minutes, on how to appropriately tootle on other classmates when they observed prosocial behaviors during class. The script included various examples of tootles, both correct and incorrect, to help the class distinguish correct tootles. “Julia got right to work when she came into class” or “John helped Ben with a math problem” would be examples of correct tootles, whereas “Katie is wearing a cute dress” or “Wilson has a green folder” would be examples of incorrect tootles, since they did not describe a specific prosocial behavior exhibited in the classroom. After the students were given examples of tootles, they were then given the opportunity to practice writing some of their own. The teacher collected the practice tootles and provided feedback with individual examples. The teacher then provided the class with potential rewards they could earn if the group met the class goal and asked for additional suggestions from those the experimenter and teacher had previously determined. The students in Classrooms A, C, and D agreed on the rewards suggested by the teacher (i.e. candy and a movie day), and Classroom B specifically requested donuts for their reward.

The students were then asked to decide on a name for the intervention. The teacher provided the students with suggestions based on the script (i.e. Brags, Kudos,
Shout Outs, Tootles, Snaps), although also allowed students to suggest names of their own. The classes then voted anonymously on a name. Classroom A voted for “Dabs,” Classroom B voted for “TBRs (To Be Reals),” Classroom C voted for “Good Noodles,” and Classroom D voted for “Shout Outs.”

_Tootling (Phase B)_

All classrooms began tootling subsequent to student training in a staggered schedule across classrooms. As students entered the classroom, the teachers either distributed, or had on students’ desks, two colored notes. The students were limited to two tootles a day. The teachers also had a container on their desk in which students were to put their completed colored notes (tootles) and two posters in the front of the classroom to show the classroom’s progress towards the group tootling goal, as well as an example tootle to remind the students of the appropriate format. The students were allowed to put the colored notes in the designated container only during transition times, however they were encouraged to report two tootles each day and hold on to them until the appropriate time. Each day, teachers conducted typical lectures and classroom activities after completing the required portions of the intervention’s integrity checklist. Before students left for the day, the teacher read through the tootles silently and counted the total number of tootles received and indicated the number on the poster in the front of the classroom so the class could see their progress toward the goal. The students were not informed of who was being tootled on or what they had done that was reported. Only the teacher read and counted the total number of tootles received and added that number to the class goal.
Classroom goals were set such that approximately three-fourths of the class were expected to submit two tootles per day over three days, resulting in criteria of 72 tootles in Classroom A, 81 tootles in Classroom B, 81 tootles in Classroom C, and 90 tootles in Classroom D. The goals were kept consistent across each classroom as they each met their previous goal.

*Tootling Combined with Public Posting (Phase B+C)*

All procedures during the tootling condition (Phase B) were continued as the classroom transitioned into the final phase of the intervention, tootling combined with public posting (Phase B+C). During Phase B+C, students were informed as to whom and what behaviors were acknowledged by their classmates in a publically posted format. The teacher and primary researcher publically posted the tootles following each intervention day on a designated bulletin board in the classroom that said “How You Act Matters.” Thus, in this final phase, students had daily access of what behaviors by whom had been reported.

The public posting was completed after the students left the class period or before they came to class the next morning, typically during the teacher’s planning period or before school. Either the teachers (Classrooms A and D), student volunteers (Classroom B), or student teacher (Classroom C) posted the tootles at the end of the day or during a planning period.

*Interobserver Agreement (IOA)*

Interobserver agreement (IOA) was measured based on the observations done by the primary investigator and a trained observer. Trained observers had to obtain 90% agreement in previous training prior to data collection and had to maintain at least 80% agreement.
agreement with the primary investigator during the study. In the event that IOA fell below 80% during any observation, the primary investigator retrained the observer; however, retraining was never necessary for any observers. Exact IOA was calculated by adding the total number of intervals of agreement for each dependent variable divided by all intervals combined (agreements and disagreements) and multiplied by 100 (Cooper et al., 2007). All three dependent variables were calculated separately as total agreement of occurrence and nonoccurrence of behavior (Lambert et al., 2015). Interobserver agreement (IOA) was conducted for 36% of all observations across all classrooms and all phases. The researcher and secondary observer maintained agreement above 80% across all three dependent variables, as well as total observed intervals in the 20-minute observations.

For Classroom A, IOA was conducted during 33.33% of all observations. Classroom A’s IOA was collected for 20% of baseline sessions, 40% of Phase B sessions, and 40% of sessions in Phase B+C. IOA overall for AEB across phases averaged 95.15% (range = 89.17-99.10%), 96.32% (range = 90.00-99.17%) overall for DB across phases, and 98.14% (range = 96.67-99.10%) overall for POT across phases. The overall IOA across all three variables averaged 96.55% (range= 92.22-98.88%).

For Classroom B, IOA was conducted during 33.33% of all observations. Classroom B’s IOA was collected for 33.33% of baseline sessions, 33.33% of observations in Phase B, and 33.33% of sessions in Phase B+C. IOA overall for AEB across phases averaged 98.03% (range = 96.66-100%), 97.96% (range = 96.66-100%) overall for DB across phases, and 98.69% (range = 97.50-100%) overall for POT across
phases. The overall IOA across all three variables averaged 98.39% (range = 97.22-99.44%).

For Classroom C, IOA was conducted during 47.37% of all observations. Classroom C’s IOA was collected for 42.86% of baseline sessions, 42.86% of Phase B sessions, and 60% of sessions in Phase B+C. IOA overall for AEB across phases averaged 96.94% (range = 94.17-100%), 98.05% (range = 95.00-100%) overall for DB across phases, and 97.22% (range = 95.00-100%) overall for POT across phases. The overall IOA across all three variables averaged 97.16% (range = 96.11-99.40%).

For Classroom D, IOA was conducted during 32.14% of all observations. Classroom D’s IOA was collected for 37.5% of baseline sessions, 30% of sessions in Phase B, and 30% of sessions in Phase B+C. IOA overall for AEB across phases averaged 92.00% (range = 86.67-97.50%), 94.70% (range = 90.83-97.50%) overall for DB across phases, and 94.94% (range = 90.00-98.33%) overall for POT across phases. The overall IOA across all three variables averaged 93.89% (range = 90.56-97.78%).

Procedural Integrity (Teacher and Student Training)

Procedural integrity was measured based on the researcher’s training of the teacher as well as the teacher’s training of the class. This training took place after baseline data had been conducted. Checklists (Appendix K; Appendix L) were provided for both training sessions. This training was meant to ensure that the teacher fully understood the intervention before they explained it to their class. During the training with the teacher, a secondary observer collected IOA data on the steps from the script using a checklist (adapted from Lynne, 2015; Appendix K). Procedural integrity of teachers’ training of the class consisted of the students’ training on the intervention as
they learned what the tootling intervention consisted of, what was expected of them, and how to write a tootle. The researcher and second observer completed a checklist (adapted from Lambert, 2012; Appendix L) as they observed the teacher explain the intervention procedures to the students. This was to ensure that all the necessary and pertinent components of tootling were introduced prior to the intervention being implemented. If a teacher fell below 90% integrity during this training, the researcher was to provide feedback about what additional information needed to be shared with the class; however, this criterion was met and no retraining was necessary.

The researcher had 88.90% procedural integrity with Classroom A’s teacher. Due to time constraints in the training session, the teacher was not able to practice every step of the script. The researcher perceived, based on the teacher’s questions, this level of procedural training was adequate to implement the study. IOA was 100% for Classroom A’s teacher training. For the student training in Classroom A, the teacher was required to discuss ten pertinent aspects of the intervention that were outlined in their script. The integrity during this training was 100% by both the researcher and the secondary observer.

The researcher had 100% procedural integrity with Classroom B’s teacher. IOA was 100% for Classroom B’s teacher training. For the student training in Classroom B, the teacher followed the script as outlined and 100% integrity was found for the teacher by both the researcher and the secondary observer.

The researcher had 88.90% procedural integrity with Classroom C’s teacher. IOA was 100% for Classroom C’s teacher training. For the student training in Classroom C,
the teacher followed the script as outlined and 100% integrity was found for the teacher by both the researcher and the secondary observer.

The researcher had 100% procedural training with Classroom D’s teacher. IOA was 100% for Classroom D’s teacher training. For the student training in Classroom D integrity was 100% for the teacher by both the researcher and the secondary observer.

*Treatment Integrity (Intervention Implementation)*

Treatment integrity was measured by the researcher, classroom teacher, and a secondary observer when present. The classroom teacher evaluated their own treatment integrity of the intervention each day as the researcher was unable to observe the implementation of all intervention components during the block nor was the researcher present every day. Integrity was measured with a checklist specific to the respective phase of intervention (Appendix M; Appendix O) adapted from Lambert (2012). Integrity was calculated by dividing the number of completed steps by the total number of steps and multiplying by 100.

The researcher also evaluated treatment integrity when present for regular classroom observations specific to the respective phase of intervention (adapted from Lambert, 2012; Appendix N; Appendix P). This integrity was assessed through the visual elements that were used in the intervention (i.e. container to place tootles and poster boards). Integrity was calculated based on total number of steps completed, divided by total number of steps. The researcher obtained interobserver agreement for treatment integrity during at least 25% of the observations (Lum 2015). All teachers self-reported 100% integrity across Phase B and Phase B+C.
Classroom A’s teacher self-reported 100% integrity during Phase B and Phase B+C. This was further confirmed by the researcher and secondary observer.

Classroom B’s teacher self-reported 100% integrity during Phase B and Phase B+C. During the second day of implementation, the goal chart was not updated from the previous day resulting in three out of four steps completed. The researcher discussed with the teacher after class the need of updating the chart each class period to provide feedback for the students on how close they were to reaching their goal. After meeting with the teacher, integrity remained at 100% across the remaining observations. Average integrity for Classroom B’s teacher across all phases by the researcher and secondary observer was 97.92% (range = 75.00-100%).

Classroom C’s teacher self-reported 100% integrity during Phase B and Phase B+C. This was further confirmed by the researcher and secondary observer.

Classroom D’s teacher self-reported 100% integrity during Phase B and Phase B+C. During Phase B+C, the teacher had not updated the goal chart from the previous day on two of three days. Thus, integrity fell to 60% both days and 80% on the third day. Average integrity in Phase B+C was 90% (range = 60-100%). Average integrity across all phases for the researcher and secondary observer was 95% (range = 60-100%).

Data Analysis

Data were evaluated using visual analysis of level, trend, variability, immediacy of the effect, overlap, and consistency of data patterns across similar phases to determine treatment effects (Horner et al., 2005; Kratochwill et al., 2010). An effect size, Tau-U, was also calculated to determine treatment effects (Parker, Vannest, Davis, & Sauber, 2011). Tau-U combines nonoverlap between phases with trend from within the baseline
phase (Parker et al., 2011). Tau-U scores are found to be a more conservative effect size measure and are evaluated according to cut-off scores of 0.00-0.20 considered as small effects, 0.20-0.60 as moderate, 0.60-0.80 as large, and 0.80-1.00 as large to very large (Vannest & Ninci, 2015).

For effect size calculations in each classroom, comparisons were made for baseline with Phase B and baseline with Phase B+C. These comparisons were made because the study did not seek to determine which intervention was better, rather compared the intervention phases separately against the baseline levels of behavior. A combined weighted average was calculated for each classroom’s AEB, DB, and POT, as well as a total weighted average for each dependent variable across all four classrooms. These results provided a narrow effect for each classroom and a broad effect across all classrooms combined. Tau-U, as a more conservative measure, was corrected for baseline trends when Tau-U levels were above .4.
CHAPTER III - RESULTS

Classroom Data

*Classroom A*

During baseline, AEB for Classroom A (see Figure 1, top panel) averaged 49.17% of intervals (range = 46.67-53.33%) with minimal variability. When the intervention was implemented in Phase B (tootling), there was an immediate increase in overall level with a mean percentage of intervals of AEB of 72.50% (range = 62.50-82.50%). AEB during Phase B was more variable than during baseline. In the final condition, Phase B+C was implemented and AEB averaged 80.67% of intervals (range = 77.50-84.17%) with minimal variability.

Classroom A exhibited stable DB with a mean of 37.33% (range = 33.33-43.33%) of intervals during baseline. When Phase B was introduced DB averaged 17.33% (range = 10-26.67%) of intervals with some variability. The final condition (Phase B+C) resulted in DB during an average of 12.33% (range = 6.67-15.00%) of intervals with minimal variability.

Classroom A exhibited POT an average of 13.50% (range = 10-20.00%) of intervals during baseline with a slight increasing trend near the end of the phase. During Phase B, POT immediately decreased to an average of 10.17% (range= 4.17-16.67%) of intervals with the implementation of tootling. Finally, when tootling was combined with public posting (B+C), POT decreased further to an average of 7.00% (range = 5.00-9.17%) of intervals with minimal variability.
Figure 1. Behaviors across participants during A/B/B+C phases.
Classroom B

Classroom B had an average of 63.33% (range = 57.50-65.83%) of intervals of AEB during baseline with minimal variability. An immediate increase in AEB was noted in Phase B with an average of 80.42% (range = 60.00-91.67%) of intervals. A decrease occurred during the second day of intervention, yet data recovered and maintained at a high level. During the B+C phase, AEB remained at high levels with a mean of 85.56% (range = 79.17-93.33%) of intervals.

DB for Classroom B averaged 18.19% (range = 11.67 – 29.17%) of intervals with little variability. When tootling was introduced, mean DB decreased to 8.89% (range = 5.83-13.33%) of intervals with stability. Finally, when tootling with public posting was introduced, classwide DB remained low and stable with an average of 6.25% (range = 1.67-11.67%) of intervals.

POT for Classroom B occurred in an average of 18.47% (range = 5.00-30.83%) of intervals during baseline with some variability. When tootling was first introduced (Phase B), there was an immediate decrease in the level of the POT with stability (M = 10.69% of intervals; range = 5.00-33.33%) except for an increase during the second day of intervention. In the final phase (B+C), POT averaged of 7.22% (range = 1.67-13.33%) of intervals and remained low.

Classroom C

During baseline, Classroom C’s AEB averaged 59.76% (range = 55.00-71.67%) of intervals with moderate variability. When Phase B was introduced there was an immediate and stable increase in AEB (M = 79.40% of intervals; range = 74.17-87.50%).
Phase B+C reflected a mean level of AEB during 79.40% (range = 73.33-84.17%) of intervals, remaining at high, stable levels as in the previous phase.

During baseline, Classroom C had a mean 21.90% (range = 14.17-31.67%) of intervals of DB with some initial variability early in baseline. When tootling was introduced, a slight decline in DB was present with an overall average of 11.90% (range = 7.50-15.83%) of intervals and greater stability than during baseline. Finally, in the tootling plus public posting phase (B+C), DB averaged 14.50% (range = 12.50-17.50%) of intervals with stability.

Classroom D

During baseline, Classroom D’s AEB occurred an average of 57.60% (range = 45.00-67.50%) of intervals. Once Phase B was introduced there was an immediate increase and variable levels of AEB across the phase (M= 76.92% of intervals; range = 63.33-87.50%). During Phase B+C AEB maintained at the same level and averaged 75.50% (range = 65.83-85.00%) of intervals.

In Classroom D, DB averaged 25.83% (range = 17.50-37.50%) of intervals during baseline with moderate variability. When tootling was introduced (Phase B), DB decreased and stabilized for an average of 13.75% (range = 5.00-23.33%) of intervals. Finally, during tootling plus public posting (B+C), DB occurred in an average of 13.33% (range = 6.67-20.83%) of intervals with stability.

For POT in Classroom D, occurrence during baseline averaged 16.56% (range = 7.50-25.83%) of intervals with some variability. Phase B reflected an immediate decrease to 9.33% (range = 1.67-21.67%) of intervals. During Phase B+C POT remained low and stable (M= 11.17% of intervals; range = 5.83-24.17%).
Effect Sizes

Classroom A (Table 1) demonstrated very large effect sizes for AEB and DB. POT compared from baseline to tootling with public posting resulted in a very large effect with a Tau-U value of 1. The weighted averages for AEB and DB in Classroom A were 1 and .90 respectively, indicating very large effect sizes and POT had a weighted average of 0.68, a large effect. These results suggest that AEB increased from baseline during both interventions phases with a very large effect and DB decreased during both intervention phases with a very large effect. In addition, the observed decrease in POT reflected a large effect.

Table 1

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Tau-U</th>
<th>Effect</th>
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</thead>
<tbody>
<tr>
<td>AEB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>1</td>
<td>Very Large</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>1</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td><strong>1</strong></td>
<td><strong>Very Large</strong></td>
</tr>
<tr>
<td>DB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>1</td>
<td>Very Large</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>.80</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td><strong>.90</strong></td>
<td><strong>Very Large</strong></td>
</tr>
<tr>
<td>POT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>0.36</td>
<td>Moderate</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>1</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td><strong>0.68</strong></td>
<td><strong>Large</strong></td>
</tr>
</tbody>
</table>

Classroom B (Table 2) demonstrated very large effects for AEB and DB, and a large effect for POT. The weighted averages were very large for AEB (.86) and DB (.93),
which suggest that both traditional tootling and tootling with public posting had similar
effects. The weighted average for POT (.65) suggested a large effect.

Table 2

Effect Size Calculations for Classroom B

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Tau-U</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>.72</td>
<td>Large</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>1</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td>.86</td>
<td><strong>Very Large</strong></td>
</tr>
<tr>
<td>DB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>.89</td>
<td>Very Large</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>.97</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td>.93</td>
<td><strong>Very Large</strong></td>
</tr>
<tr>
<td>POT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>.47</td>
<td>Moderate</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>.83</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td>.65</td>
<td>Large</td>
</tr>
</tbody>
</table>

Classroom C (Table 3) demonstrated very large overall effects for AEB and POT,
whereas comparisons for DB were moderate to large. Weighted averages were very large
for AEB and POT. These results suggest that both traditional tootling and tootling with
public posting had similar, considerable effects on these two variables. The weighted
average for DB was moderate, as the comparison made from baseline to public posting
was .40.

Table 3

Effect Size Calculations for Classroom C

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Tau-U</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>1</td>
<td>Very Large</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>1</td>
<td>Very Large</td>
</tr>
</tbody>
</table>
Classroom D (Table 4) demonstrated very large effects for AEB and DB across all comparisons, and moderate effects for POT. Weighted averages for AEB and DB were very large, and moderate for POT, suggesting that both, tootling and tootling with public posting produced considerable effects for AEB and DB.

Table 4

Effect Size Calculations for Classroom D

<table>
<thead>
<tr>
<th>Behavior</th>
<th></th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AEB</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>.88</td>
<td>Very Large</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>.98</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td>.93</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>DB</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>.85</td>
<td>Very Large</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>.93</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td>.89</td>
<td>Very Large</td>
</tr>
<tr>
<td><strong>POT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline/Tootling</td>
<td>.58</td>
<td>Moderate</td>
</tr>
<tr>
<td>Baseline/Tootling + Public Posting</td>
<td>.50</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td>.54</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Overall weighted averages were calculated across classrooms for each variable to determine the effect of intervention as whole and as separate components. For AEB with tootling alone, the weighted average was .90 to indicate a very large effect and AEB for
tootling with public posting, the weighted average was .99, also very large. For DB with
tootling alone, the weighted average was .86 to indicate a very large effect and for
tootling with public posting, the weighted average was .78, a large effect. For POT with
tootling alone, the weighted average was .56 to indicate a moderate effect and for tootling
with public posting, the weighted average was .80, a large effect.

Social Validity

This study incorporated two different forms of social validity to measure
individuals’ perceptions of tootling in combination with public posting in the classroom.
The first measure used was the BIRS, which was given to the four classroom teachers as
well as the student teacher in Classroom C due to her participation in the study. As shown
in Table 5, a majority of the scores indicated high averages across factors and teachers.
Classrooms A, B, and C* (indicating the student teacher) teachers gave an overall item
mean score in the range of 5. These scores suggest that the teachers found tootling in
combination with public posting to be an effective intervention as they appeared to be
satisfied with its outcomes. Classroom C and D teachers gave an overall item mean score
in the range of 4. Based on these scores, as well as positive anecdotal remarks, evidence
for the social validity as rated by teachers suggest the utility of this intervention in a high
school classroom setting.
Table 5

Mean Teacher Ratings on the Behavior Intervention Rating Scale

<table>
<thead>
<tr>
<th>Factor</th>
<th>Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Acceptability</td>
<td>5.27</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>5.14</td>
</tr>
<tr>
<td>Time of Effect</td>
<td>5.50</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>5.25</td>
</tr>
</tbody>
</table>

Note: C* indicates the student teacher in Classroom C.

The second measure of social validity was used to measure the students’ perception of the intervention. The CIRP was completed by students for whom parent permission was given to complete the form. Again, like the BIRS, higher scores reflect greater acceptability of the intervention. Across the four classrooms, a total of 28 students (39.4%) completed the CIRP. Five of the students were in Classroom A, 10 were in Classroom B, 6 were in Classroom C, and 7 were in Classroom D. Students not participating engaged in an alternative activity. Scores are shown in Table 6. A majority of the scores indicate that they found the intervention to be acceptable and effective in impacting classroom behaviors. Item means were near 5 (agreement of acceptability of intervention).
Table 6

*Mean Student Ratings of Children’s Intervention Rating Profile*

<table>
<thead>
<tr>
<th>Mean</th>
<th>Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>All Items</td>
<td>4.73</td>
</tr>
<tr>
<td>Overall Score</td>
<td>28.40</td>
</tr>
</tbody>
</table>
CHAPTER IV – DISCUSSION

Research Questions

Tootling has proven effective in the literature since its introduction in 1998. Although a variety of modifications have been made to the intervention, continued alterations are desired to determine the most effective approach for its implementation in the classroom. The present study assessed traditional tooling and the addition of a public posting component of students to traditional tooling in a high school setting to determine effects on classwide academically engaged behavior (primary dependent variable) and disruptive behavior (secondary dependent variable). Previous research relied on chance for a student to be publically recognized by having their name drawn (e.g., Lambert et al., 2015; Lum et al., in press; McHugh et al., 2016), whereas this study provided attention for all students daily when Phase B+C was implemented. This allowed students to be recognized for their appropriate prosocial behaviors and ideally encourage others to act similarly. The following includes a discussion of each research question initially posed.

*Question 1*

The first research question asked if traditional tooling would increase classwide AEB in a high school setting. Results in the study shown through visual analysis and effect sizes indicate that there were substantial increases in levels of classwide AEB from baseline to Phase B across all classrooms with large to very large effect sizes. This question was investigated due to traditional tooling having little presence in the literature within a high school setting. The researcher wanted to determine if results were consistent with past research of tooling in a high school setting (e.g. Lum et al., in press) that demonstrated variable effect sizes (weak to strong) for increases in academically
engaged behaviors. The present results reflected stronger effects on AEB than Lum et al. in a high school setting, although were generally consistent with those found by McHugh et al. (2016) with lower elementary students (second and third graders) and by Lambert et al. (2015) with upper elementary students (fourth and fifth graders).

Question 2

The second research question asked if traditional tootling in a high school setting would decrease classwide DB. Results of the present study indicate that there were substantial decreases (very large effect sizes) in levels of classwide DB from baseline to Phase B across three classrooms (A, B, and D), with Classroom C reflecting moderate to large effect sizes. These results also reflected somewhat stronger effects than those found by Lum et al. (in press; mostly moderate effect sizes) in high school classrooms. Again, however, these effects on disruptive behavior are generally consistent with those found by other researchers (Lambert et al., 2015 McHugh et al., 2016) with elementary students.

Questions 3

The third research question asked if traditional tootling in combination with public posting would increase classwide AEB above that found with traditional tootling alone. Results in the study shown through visual analysis and effect sizes indicate that there were increases in levels of classwide AEB from baseline to Phase B+C across all classrooms. However, when comparing Phase B (traditional tootling) with Phase B+C (the addition of the public posting), slight if any improvements in behavior were noted. It appears that the effects of traditional tootling alone were as effective as tootling with public posting. It is evident that clear increases in AEB occurred from baseline to Phase
B+C. However, when comparing Phase B with Phase B+C, little if any improvement in AEB is evident. The data (increases) are not sufficient enough to indicate the addition of individual public posting as necessary for future studies. Results were equally high for both phases, suggesting individual public posting added little change to levels of classroom academically engaged behavior.

**Question 4**

The fourth research question asked if traditional tootling in combination with public posting would decrease classwide DB. Results of the present study indicated that there were decreases in levels of classwide DB from baseline to Phase B+C across all classrooms. However, when comparing Phase B with Phase B+C, there was little to no further improvements. It is also important to note that DB was a secondary dependent variable rather than primary. The purpose of the study was to promote more positive prosocial behaviors in the classroom. Increases in AEB do not guarantee concomitant decreases in DB. The results of this study provide further evidence for including AEB as the primary dependent variable when trying to increase more preferred and socially appropriate behaviors. The additional use of individual public posting provided no substantial decreases to levels of disruptive behavior. This demonstrates that traditional tootling, and the components associated with the intervention (e.g. group public posting towards goal) are sufficient for the desired change of behavior and the need for individual public posting is not necessary.

**Question 5**

The final research question asked if tootling in combination with public posting would be identified as a socially valid intervention. Results from the BIRS and CIRP
indicated high levels of acceptability and satisfaction from the intervention. Both teachers and students found the intervention socially valid, acceptable, and to be a beneficial tool in their classroom. Anecdotally, a number of students stated disappointment with the termination of the intervention when they had fulfilled the study’s requirements. Classroom B’s teacher continued the intervention after the study had been completed and Classroom C’s teacher discussed with the primary researcher ways to make the intervention more individualized rather than group-oriented. Classroom D’s teacher expressed a variety of concerns with the length of the study as it continued in his classroom for several months. This was due to a combination of absences, class testing, and the necessity of extending baseline and sequential phases longer based on the multiple baseline design. Classroom D’s teacher initially appeared to enjoy the intervention and found it to be effective, but near the end became more resistant to its continuation. Anecdotally this teacher stated that the intervention would be more effective for a shorter period of time (i.e. one-two weeks), rather than the nearly three weeks in his classroom. Regardless, the intervention received high scores across the three factors of Acceptability, Effectiveness, and Time to Effectiveness. In summary, with very slight exceptions, the present study as well as previous investigations (Lambert et al., 2015; Lum et al., in press; McHugh et al., 2016) have found encouraging results with regard to the acceptability of tootling.

Limitations

The present study, although providing evidence for tootling in combination with public posting, has a number of limitations that should be considered. Tootling alone was again shown as an effective intervention for high school students, while concomitantly
showing that the addition of public posting contributed minimally to behavior change. One limitation of the study is the potential for sampling bias as each observation occurred during the same time of the block each day. Observations were 20-minutes in length and only provided a sample of classroom behavior and may have included some reactivity to the presence of the observers. It is unknown, besides anecdotally from the teachers, what effects may or may not have occurred during other times in the classrooms when researchers were not present. Students may have behaved more appropriately when observers were present. In sum, although classroom observations provide the most direct measure of behavior, observations were brief and not conducted daily.

A second limitation with regard to external validity was that all four classrooms were located within the same school and school district. It is unknown whether the intervention would generalize to other settings. Although the classrooms included a broad range of topics (i.e. Biology, English, Contemporary Health, etc.), the settings were all similar with high school students in a rural environment. Tootling in combination with public posting would need to be replicated in other settings (i.e. elementary or middle schools) to better determine its overall effectiveness and external validity. It is also unknown whether AEB generalized to other classes. Since observations were only conducted in the classrooms in which intervention occurred, there is no evidence to show that AEB increased in other settings. Further research would be needed to assess generalization to other classes in which intervention was not conducted.

A third limitation was that procedural integrity for two of the teachers (Classroom A and C) was not 100%. Due to time constraints, not all steps could be completed, which resulted in 89% procedural integrity during teacher training. The two steps that were not
included, however, were “Allow the teacher to practice each step of the teacher script” and “Provide feedback on any errors or omitted steps.” This, however, did not negatively impact procedural training for the students, as all four teachers were able to introduce and train the students with the script with 100% integrity.

Another limitation was that teacher treatment integrity was not 100%, yet AEB still increased over time in all classrooms and DB and POT decreased. Classroom B’s teacher had to be retrained after the second session as it was noted that the feedback chart had not been updated from the previous day. However, it is unknown whether some steps are more necessary than others. There was some lack of consistency between teacher self-reported integrity and researcher obtained integrity, a finding consistent with other tootling research (Lambert et al., 2015; McHugh et al., 2016; Lum et al., in press).

Another limitation was the treatment integrity for the public posting component. When teachers transitioned into Phase B+C no additional training was given to the teacher or students. The primary researcher initially completed the public posting each day after class to decrease response effort for the teacher, but eventually transitioned the public posting to two of the teachers (Classrooms B and C), while continuing to publicly post for Classrooms A and D. Due to the primary researcher not being able to publically post the tootles during a few sessions (Classroom D for three sessions), it is unknown the importance of public posting as AEB still increased without the public posting component for several days. This limitation could best be summarized as the discrepancy found between self-report and permanent product data.

A final limitation is potential order effects of intervention phases. Due to the design of the study, Phase B+C always followed Phase B in each classroom. The
intervention was never introduced initially with the public posting component in combination to the tootling procedures. Therefore, it is unknown if there were potential order effects impacting the results of the study. Even though Phase B+C generally maintained high levels of AEB and low levels of DB, it may be due to the order of the implementation (second intervention condition) rather than the added novel component.

Future Research

As this study and previous studies have shown (Lambert, 2014; Lambert et al., 2015; Lum et al., in press; McHugh et al., 2016), tootling is an effective intervention to use in a variety of classroom settings (e.g. elementary and high school). However, based on the findings in the present study, it does not appear that public posting in the present investigation added much if anything to the traditional tootling procedures.

Future directions for research on tootling also might include adjusting the type of group contingency that is in place for access to rewards. This study used an interdependent group contingency, however more effectiveness may be found with an independent contingency. The use of technology (i.e. ClassDojo) may also be a beneficial addition to tootling as suggested by preliminary evidence (McHugh, 2016) as technology may reduce response effort by teachers and may enhance interest of students.

Implications for Practice

Overall the results of this study indicate that traditional tootling and traditional tooling in combination with public posting increased AEB and decreased DB and POT in a high school setting. However, it does not appear that public posting adds much if anything to the effectiveness of traditional tooling procedures. This study provides additional evidence for the effectiveness of tootling in high school settings similar to
Lum et al. (in press) and Lum (2016), as well as showing that while there was a decrease in DB, there was, perhaps more importantly, an increase in AEB.

The findings in this study show the beneficial influence that reporting and making students aware of their peers’ positive, prosocial behaviors can have on overall classroom behavior. Due to the peer-mediated nature of the intervention, thereby allowing for less teacher effort, the implications for the use of this intervention in a variety of classrooms appears to be promising. Tootling appears beneficial for teachers in need of a behaviorally focused support that requires less response effort by the teacher.
APPENDIX A – Institutional Review Board Approval Form

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 211), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Event Report Form".
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 1611201
PROJECT TITLE: The Effects of Traditional Tootling Combined with Public Posting of Individuals Receiving Tootos on Classwide Academic Engagement and Disruptive Behavior in Elementary School Classrooms
PROJECT TYPE: New Project
RESEARCHER(S): Sarah Wright, John Lum, Kayla Bates, and Joy Wimberly
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Psychology
FUNDING AGENCY/Sponsor: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 11/2/2015 to 11/11/2015
Lawrence A. Hosman, Ph.D.
Institutional Review Board
October 29, 2015

Dear Institutional Review Board of The University of Southern Mississippi,

Sarah Wright has approached me with a research project idea that she would like to implement on campus at Forrest County Agricultural High School. I have met with Ms. Wright and given approval of the project with details to be determined as target classrooms are identified.

If you have any questions or concerns about my support of Ms. Wright’s research project, please contact me at the school.

Sincerely,

Charles Johnson
Principal
Forrest County Agricultural High School
APPENDIX C  Teacher Consent Form

Title of Study: The Effects of Tootling with Public Posting in High School Classrooms

Purpose of Study: Your permission in requested for participation in a study that is investigating the effects of an intervention called Tootling for increasing appropriate behaviors.

Who can participate: Students in high school (grades 9-12) and their teachers can participate in the study. Additionally, the students must exhibit behavior that is inappropriate and/or disruptive to the classroom to be included in the study.

Methods and Procedures: Upon agreeing to participate, you will be contacted by the primary researcher to obtain information regarding your class’ overall disruptive behaviors and to determine target behaviors to be observed. If the criterion for inclusion is not met, you may request services through an alternative intervention. If the criterion of less than 70% classwide academically engaged behavior is met, you will be asked to implement the Tootling intervention. The primary researcher will train you in implementing the intervention using all necessary materials. You will also be given instructions about how to train the students on the Tootling intervention. In Tootling, the students will privately write classmates’ appropriate behaviors on paper slips throughout the day and place them in a designated box for collection. In consultation with the primary researcher, you will select the target behaviors and the Tootling implementation time. During intervention, each start of the class period you will provide the students with index cards and then remind and encourage them to write their tootles. Students will be told that their number of tootles will be counted daily and posted to the class for feedback. Students will also have the opportunity to be recognized through Public Posting, if a peer tootles on them. Individuals who receive a tootle will have their tootle posted on a designated wall in the classroom. If the class earns a certain number of tootles, the class will earn a reward. The researcher and trained graduate students will conduct observations during the previously decided time when disruptive behavior is most likely to occur during a learning activity. Disruptive behaviors of concern and academically engaged behaviors you wish to improve will be observed and recorded.

Benefits: Your benefits by participating in this study may include observed improvements in student behavior and learning a unique intervention designed to improve student behavior.

Risks and Discomfort: There are few anticipated risks associated with participation. Initially, you may not be comfortable with the time required to implement Tootling in your classroom. You also may not feel comfortable implementing an unknown and new procedure in your classroom. However, you will be provided with training by the primary investigator as well as any additional materials needed for implementation. The primary investigator will also be available to answer any questions you may have.
Throughout the experiment, your students’ behavior will be monitored. In the event that undesired and unanticipated effects arise (i.e., increase in disruptive behaviors), modifications or termination of procedures will occur and you and your students will be provided with other services.

**Confidentiality of Records:** All interviews, observations, and other information obtained during this study will be kept strictly confidential. Your name, students’ names, and other identifying information will not be disclosed to any person not connected with this study. Results from this research project may be shared at professional conferences or published in scholarly journals; however, all identifying information will be removed from publications and/or presentations.

**Voluntary Participation:** Your participation in this study is voluntary. You may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Whereas no assurance can be made concerning results that may be obtained (as results from investigational studies cannot be predicted), the primary investigator will take every precaution consistent with the best scientific practice.

**Teacher’s Consent:** If you agree to participate, please read, sign, and return the following page. Please keep this letter for your records. If you have any questions about this study, please contact Sarah Wright or Dr. Daniel Tingstrom (Phone: 601-XXX-XXXX; Email: XXXX@usm.edu; XXXX@usm.edu). This project and this consent form have been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Institutional Review Board Office, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406-5147, (601) XXX-XXXX.

Sincerely,

____________________________
Sarah J. Wright, B.A.
School Psychologist-in-Training
Department of Psychology
The University of Southern Mississippi

____________________________
Daniel H. Tingstrom, Ph.D.
Supervising Licensed Psychologist
MS License #29-422
Department of Psychology
The University of Southern Mississippi
I have read the above documentation and consent to participate in this project. I have had the purpose and procedures of this study explained to me and have had the opportunity to ask questions. I am voluntarily signing this form to participate under the conditions stated. I have also received a copy of this consent. I understand that I will be asked to implement a classroom-based intervention, and observations will be conducted in the classroom on the students’ behavior. In order to do so, I will be required to complete a consultation session, to implement the intervention, and to complete a structured questionnaire to assess my satisfaction with the intervention. In addition, I will be trained on all of the intervention procedures by the primary experimenter. I further understand that all data collected in this study will be confidential and that my name and the students’ names will not be associated with any data collected. I understand that I may withdraw my consent for participation at any time without penalty, prejudice, or loss of privilege.

___________________________________________  ________________________________
Signature of Teacher                          Date

___________________________________________
Signature of Witness
APPENDIX D – Teacher Demographic Form

Teacher Demographics:
Number of years teaching: ___________________
Race: _______________
Gender: _____________
Highest degree earned: ____________________

Classroom Demographics:
Number of students in the class: _____________
Number of:     Males: ______  Females: _____
Number of:     African Americans: _____  Asian: ____  Caucasian: _____  Hispanic: _____

Circle one:     General Education     Self Contained

Number of SPED students in your classroom: ___________________

Please list the disability categories of each child in SPED (do not include names):
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Dear Parent:

Your child’s class has been selected to participate in a research study titled: “The Effects of Tootling Combined with Public Posting in High School Classrooms” that is being conducted by researchers at The University of Southern Mississippi. The study will not interfere with instructional time and will fall within normal classroom activity and procedures. To assess the effectiveness and acceptability of this intervention your child is being asked to complete a short rating scale of the intervention. There will be no identifying information collected by the researchers and there will be no record that could be used to identify your child as a participant. Finally, all procedures have been approved by the University of Southern Mississippi’s Institutional Review Board. Please sign and return to your child’s classroom teacher by March 15, 2016 if you desire to give voluntary consent for your child to fill out the rating scale.

Student’s name: ______________________________
Parent’s signature: ____________________________
Date: _______________________________________

Adapted from Evan H. Dart’s passive consent form for the study “A Comparison of In-vivo and Digital Systematic Direct Observation” In press.
APPENDIX F  Script for Tootling Training Session

Training Steps:
1. Indicate the need to change the focus of behaviors towards positive instances.

Say: In school, we often only focus on the bad things students do. Take a few seconds to think of all of the good things a teacher has told you about your behavior, and then think about all of the bad things a teacher has told you about your behavior. (Pause for a few seconds) I am guessing most of you have heard more negative comments about your behavior than positive ones. I want to change that in this classroom. I would like to make sure everyone is recognized for the good things they do, big and small.

2. Introduce the Tootling procedure.

Say: We are going to start a procedure where you will report and write down when you see another student doing something good or helpful. If the whole class is successful and does this enough, I will give the whole class a reward. While I’m explaining this now, we will call it giving a ‘tootle,’ to a classmate when you see them engaging in helpful acts toward others, following rules, and being an example to others.

3. Start a discussion with the class, asking for specific examples. Start the discussion by giving an example. Also include some unacceptable examples.

Say: For example, a good positive comment would be “Nick helped Matt hand in his worksheet” or “Kate raised her hand before talking to give an answer.” An incorrect ‘positive comment’ would occur if there is no name mentioned for the student doing the good behavior or if what’s written down is not a specific example of a good behavior, such as “The boys have pencils.”

4. Teach the class what to write on the note cards.

Say: On each paper, you will write the student’s name and what he or she did that was good or helpful.

5. Have each student write a practice tootle on a note card.

Say: I want everyone to write one positive comment on a paper slip for practice. When you’re finished, I will collect them and read it out loud so we can practice some more together.

Praise acceptable examples and provide feedback for inappropriate examples.

6. Explain the procedure.
Say: Every day I will give each of you two paper slips on your desk. Each time you see a classmate doing something good or helpful, I want you to write it down. Remember, when you write a positive comment be sure to put the person’s name and what they did.

7. Tell the class that they can put their paper slips in a marked container during transition times.

Say: You can put your paper slips in this box (hold up box) during your free time between assignments or activities. For example, this means you will have to hold on to your paper slips until it’s time to switch from group work to the start of the lesson, or until class ends. Then you may get up and put your cards in the box.

8. Explain that this is anonymous.

Say: This is completely anonymous, so do not write your own name down anywhere on the card – only the name of the person you are writing a positive comment for.

9. Tell the class that you will count the tootles and add them up for their reward.

Say: At the end of each day, I will count the number of positive comments in the box and put the total number on a poster board at the front of the class so everyone can see. Once we reach ____ (number) positive comments, then the whole class will receive a reward.

10. Tell the class that you will later on publicly post tootles on the wall.

Say: I will also publicly post tootles on a designated wall if you receive a tootle during the day. All tootles will continue to go toward the group goal for the class reward.

11. Tell the class the rewards that are available (i.e., bonus points, homework passes, candy, snacks, etc.) Ask the class to come up with reward ideas. Write down other appropriate examples not chosen for possible use later.

12. Vote on a name for the procedure.

Write on the board: Brags, Kudos, Shout Outs, Tootles, Snaps, Tootles
Say: We will now vote on what we’re going to call this procedure. Here are 6 choices (Brags, Kudos, Shout Outs, Tootles, Snaps, Tootles), are there any other suggestions?

Have students put their heads down on their desks and vote. After tallying the results, announce the winning name.

Adapted from Lambert, A. M. (2012). Evaluating the effects of tootling of disruptive and appropriate behaviors in elementary school children. (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS.
APPENDIX G  Problem Identification Interview Form

Student: _____________________  Teacher (s): ______________________________
School: _____________________  Age: _____  Sex:  Male  Female
Date: _____________________

Describe the class’ behavior problems in order of severity and give examples.

1. How manageable is the problem behavior?

2. In what settings does the problem behavior occur?

3. Goals for the problem behavior (what would you like to see happen)

4. Tell me about what happens before the behavior? After the behavior occurs?

5. Intervention attempts, degree of success, reasons for failure.

6. What procedures have you tried in the past to deal with this problem behavior?

7. What have you done to deal with similar behavior problems in the past?

8. What’s worked? What hasn’t?

9. Rules and typical procedures carried out in the classroom (constraints and assets).

10. Reinforcers - used now and potentials for future (i.e., praise, activities, or notes sent home).

11. Any data collected presently?

12. Ask teacher for any additional comments or questions.

Adapted Lum, J.D.K. (2015). The effects of tootling on disruptive behaviors and academic engagement in high school classrooms (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS.
# APPENDIX H  Behavior Intervention Rating Scale

Please respond to each of the following statements thinking about the intervention you implemented (i.e., Tootling). Please then circle the number associated with your response. Be sure to answer all statements.

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<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<td>Tootling + public posting was an acceptable intervention for the students’ problem behavior(s).</td>
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<td>Most teachers would find tootling + public posting appropriate for other classroom behavior problems.</td>
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<td>Tootling + public posting proved effective in helping to change students’ problem behavior(s).</td>
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<td>I would suggest the use of tootling + public posting to other teachers.</td>
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<td>The behavior problems were severe enough to warrant use of this intervention.</td>
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<td>Most teachers would find tootling + public posting suitable for the classroom use described.</td>
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<td>I would be willing to use tootling + public posting again in the classroom.</td>
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<td>Tootling + public posting did not result in negative side effects for the students.</td>
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<td>This intervention would be appropriate for a variety of students.</td>
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<td>Tootling + public posting was consistent with interventions I have used in the classroom setting.</td>
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<td>Tootling + public posting was a fair way to handle the students’ problem behavior.</td>
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<td>Tootling + public posting was reasonable for the problem behaviors described.</td>
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<td>I liked the procedures used in tootling + public posting.</td>
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<td>Tootling + public posting was a good way to handle the students’ problem behavior.</td>
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<td>Overall, tootling + public posting was beneficial to the students.</td>
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<td>Tootling + public posting quickly improved the students’ behavior.</td>
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<td>Tootling + public posting produced a lasting improvement in the students’ behavior.</td>
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<td>Tootling + public posting improved the students’ behavior to the point that it did not noticeably deviate from other classmates’ behavior.</td>
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<td>Soon after using Tootling + public posting, the teacher noticed a positive change in the problem behavior.</td>
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<td>The students’ behavior remained at an improved level even after Tootling + public posting was discontinued.</td>
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<td>Using Tootling + public posting did not only improve the students’ behavior in the classroom, but also in other settings (i.e., other classrooms, home).</td>
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<td>When comparing the students with other well-behaved peers before and after the use of the intervention, the students’ and the peers’ behavior more alike after using the intervention.</td>
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<td>The intervention produced enough improvement in the students’ behavior so the behavior was no longer a problem in the classroom.</td>
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<td>Other behaviors related to the problem behavior were also likely improved by the intervention.</td>
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Adapted Lum, J. D.K. (2015). The effects of tootling on disruptive behaviors and academic engagement in high school classrooms (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS.
## APPENDIX I  Children’s Intervention Rating Profile

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<th>Slightly Agree</th>
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<td>Tootling + Public Posting was fair.</td>
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<td>I liked Tootling + Public Posting.</td>
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<td>I think other students would like Tootling + Public Posting</td>
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<td>Tootling + Public Posting helped me do better in school.</td>
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<td>There are better ways to handle problem behaviors than using Tootling + Public Posting</td>
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<td>Tootling + Public Posting caused problems for my friends</td>
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Adapted from Lambert, A. M. (2012). Evaluating the effects of tootling of disruptive and appropriate behaviors in elementary school children. (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS
## APPENDIX J Observation Form

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<td>Passive</td>
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<th>Interval</th>
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<th>19.2</th>
<th>19.3</th>
<th>19.4</th>
<th>19.5</th>
<th>19.6</th>
<th>20.1</th>
<th>20.2</th>
<th>20.3</th>
<th>20.4</th>
<th>20.5</th>
<th>20.6</th>
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<tbody>
<tr>
<td>Academic</td>
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<tr>
<td>Passive</td>
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</table>

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Percentage of Intervals</th>
<th>IOA: Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruptive Behavior:</td>
<td>__________ / 120 = _________%</td>
<td>_______ / 120 = _________%</td>
</tr>
<tr>
<td>Passive Off-Task:</td>
<td>__________ / 120 = _________%</td>
<td>_______ / 120 = _________%</td>
</tr>
<tr>
<td>Academically Engaged Behavior:</td>
<td>__________ / 120 = _________%</td>
<td>_______ / 120 = _________%</td>
</tr>
</tbody>
</table>
APPENDIX K Teacher Training Script Integrity Checklist

1) Introduction of Tootling:
   □ Step 1 – Give the classroom teacher the “Script for Tootling Training Session”
   □ Step 2 – Explain what a “tootle” is

2) Explanation of each step of the tootling procedure:
   □ Step 3 – Change focus to positive behaviors
   □ Step 4 – How to define a tootle/introduce the intervention
   □ Step 5 – Give appropriate and inappropriate examples of tootles
   □ Step 6 – How to properly write a tootle
   □ Step 7 – Have students practice writing a tootle
   □ Step 8 – Explain the daily tootling procedure
   □ Step 9 – How to submit the two pieces of a tootle
   □ Step 10 – Students can submit during transition times/end of class
   □ Step 11 – Explain that tootles are anonymous and voluntary
   □ Step 12 – How rewards will be earned (after goal is reached)
   □ Step 13 – Eventually tootles publically posted on the wall
   □ Step 14 – Brainstorm rewards
   □ Step 15 – Name the intervention

3) Practice the tootling procedure:
   □ Step 16 – Allow the teacher to practice each step of the teacher script.
   □ Step 17 – Provide feedback on any errors or omitted steps.

4) Questions & Answers:
   □ Step 18 – Ask the teacher if there are any questions regarding the procedure.

Number of steps completed: _______ / 18 = _______ %
Date: _______________________
Observers’ initials: ______________

Adapted from Lynne, S. (2015). Investigating the use of a positive variation of the good behavior game in a high school setting. (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS.
APPENDIX L  Integrity for Classroom Training on Tootling

<table>
<thead>
<tr>
<th>Training Steps</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Introduction indicating a shift to a ‘positive’ focus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Defines Tootling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Class discussion of examples and non-examples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Teach students how to write on paper slips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Have each student write a practice tootle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Explain tootling procedures and public posting of individuals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Explain where to put tootles and when they can do it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Explain feedback chart and poster</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Decides on a reward</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of steps completed: 9
Percentage of steps completed: ______

Adapted from Lambert, A. M. (2012). Evaluating the effects of tootling of disruptive and appropriate behaviors in elementary school children. (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS.
APPENDIX M  Treatment Integrity for Tootling

To be completed by the classroom teacher daily

Date: ___________________  Teacher: _____________________

<table>
<thead>
<tr>
<th>Tootling</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning of the Period/Class</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1    Provide paper slips to students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2    Remind students about tootling and show feedback chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>During Transitional Times</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3    Allow students time during transitions to put tootles in box</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>End of the Period</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4    Add up tootles for the day and update feedback chart</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of steps completed: /4

Percentage of steps completed: _________

Adapted from Lambert, A. M. (2012). Evaluating the effects of tootling of disruptive and appropriate behaviors in elementary school children. (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS.
APPENDIX N  Treatment Integrity for Experimenter Observations Phase B

Date: _______________        Observer: ____________________

<table>
<thead>
<tr>
<th>Tooting Steps</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Feedback chart hung up in a visible area of the classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Feedback chart updated from previous days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Paper slips visible on the students’ desks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Tooting collection container visible</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of steps completed:  /4

Percentage of steps completed: _______
**APPENDIX O  Treatment Integrity for Tootling with Public Posting**

*To be completed by the classroom teacher daily*

Date: ___________________  Teacher: _____________________

<table>
<thead>
<tr>
<th>Tootling in Combination with Public Posting Steps</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning of the Period/Class</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Provide paper slips to students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Remind students about tootling and show feedback chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>During Transitional Times</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Allow students time during transitions to put tootles in box</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>End of the Period</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Add up tootles for the day and update feedback chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>End of Day</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Post tootles to the designated area</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of steps completed:  /5

Percentage of steps completed: ________

Adapted from Lambert, A. M. (2012). Evaluating the effects of tootling of disruptive and appropriate behaviors in elementary school children. (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS
APPENDIX P  Treatment Integrity for Experimenter Observation Phase B+C

Date: ___________________  Observer: ___________________

<table>
<thead>
<tr>
<th>Tootling in Combination with Public Posting Steps</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Feedback chart hung up in a visible area of the classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2  Feedback chart updated from previous days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3  Paper slips visible on the students’ desks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4  Tootling collection container visible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5  Tootles posted on designated wall</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of steps completed:  /5

Percentage of steps completed: ______

Adapted from Lambert, A. M. (2012). Evaluating the effects of tootling of disruptive and appropriate behaviors in elementary school children. (Master’s thesis). The University of Southern Mississippi, Hattiesburg, MS.
REFERENCES


Research, 76, 29-33.


O’Handley, R. (2014). The Effects of Contingent Public Praise Used Alone and in Combination with Public Posting on Appropriately Engaged Behavior in Secondary Classrooms. The University of Southern Mississippi, Hattiesburg, MS.


Staub, R. W. (1990). The effects of publicly posted feedback on middle school students'


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