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# Using a Dependent Group Contingency to Increase Homework Completion and Accuracy in a General Education Classroom

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USING A DEPENDENT GROUP CONTINGENCY TO INCREASE  
HOMEWORK COMPLETION AND ACCURACY IN A  
GENERAL EDUCATION CLASSROOM

A Thesis

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Master of Arts

in

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by  
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## ABSTRACT

Current trends in homework research have sought to understand the importance behind homework assignment and completion as well as effective interventions to increase accurate homework productivity. Classroom contingencies have been shown to effectively increase a variety of academic behaviors in the classroom, but research remains limited on the efficacy of a dependent group contingency administered in a general education classroom to improve homework completion and accuracy. The study utilized a dependent group contingency in the general education classroom setting in southeastern Louisiana public schools to improve students' homework performance. Teacher, individual student and classroom data were collected in order to analyze this novel approach and enhance the current research on the utilities of a dependent group contingency targeting homework performance. Although there were some positive effects of the group contingency, the data was highly variable across phases and baseline logic was unable to be demonstrated. Therefore, a functional relationship could not be established between the contingency and homework performance. Despite these findings, the study demonstrates utility in future research. Limitations and future directions in research in schools are discussed.

## CHAPTER 1 REVIEW OF LITERATURE

With the rise in focus on national achievement scores in comparison to other countries, the Organization for Economic Cooperation and Development implemented the Program for International Student Assessment and reported international standings on a variety of academic scores in 2012 (OECD, 2014a). Their internationally-scaled assessment reported United States' students scored below average when compared to other countries. This report's findings, along with other catalysts such as the common core, have driven much emphasis and refocus into current education policies. One such policy is the assignment of homework. In his 2014 installment of Brown Center Report on American Education, Loveless states parents and concerned journalists called for change in policy regarding the length of homework problems as early as 1901. Time spent on homework was seen as intrusive and too labor-intensive for students of any age. These beliefs resulted in policy reforms to place restrictions on homework assignments (Loveless, 2014). Current publications still express worries about the burden of homework. However, on a report surveying parent and student perceptions of time spent doing homework, MetLife (2007) found that sixty percent of parents rated the amount of homework being assigned as 'good' or 'excellent'. Eighty-one percent of students in grades three through six stated they spent one hour or less of homework on a typical school day, and sixty-seven percent of students in grade seven through twelve stated they spent one hour or less of homework on a typical school day (MetLife, 2007). These percentages provide examples of the actual sentiment expressed by the national school population. As a result current homework trends are regarded as acceptable within the population, and studies focus on ways to improve homework assignments and completion.

In addition to the varying subjective opinions on homework assignments, other sources of research focus on the relationship between homework and achievement. In conjunction with classroom instruction, homework can be seen as a supplementary source of skills practice and repetition (Henderson, 1996). Specifically, researchers study homework to determine the most appropriate means to increase achievement scores and other positive skills to enhance academic performance. Homework allows the student additional practice on academic materials which can enhance academic performance in the classroom in regards to similar instructional material (Harris & Sherman, 1974; Miller & Kelley, 1991). Some positive outcomes of homework include improved time management, grades, and achievement for students with a wide range of abilities such as at-risk or gifted (Olympia, Sheridan, & Jenson, 1994; Trautwein, 2007). Researchers have synthesized homework data across the years to find that homework does have a positive effect on academic achievement (Cooper, Robinson, & Patall, 2006; Miller & Kelley, 1991; Trautwein, 2007).

Research suggests a strong relationship between homework and achievement; however, flawed methodology limits causal inferences and agreement across studies. In their meta-analysis of studies measuring the effects of homework completion on achievement outcomes, Cooper et al. (2006) did find multiple flaws in studies' methodologies, including a lack of adequate sample sizes for every grade. In agreement, Miller and Kelley (1991) state there is an absence in studies to support this causal relationship between homework performance and achievement. In regards to interventions seeking to improve homework, Miller and Kelley also conclude that sample size and study designs are flawed due to their lack of data collection in regards to completion and accuracy. Additionally, Maertens and Johnston (1972) compared 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> grade students across math classes randomly assigned to homework versus no homework treatments and found

significant differences between the groups on post-tests but only a significant difference on weekly quizzes for 4<sup>th</sup> and 5<sup>th</sup> grade. This result shows promise; however, there were limitations as a result of confounding variables such as parental involvement and learning deficits. At the high school level, Keith and Cool (1992) found homework had a direct effect on achievement, although larger effect sizes were found for intelligence and coursework. While the results of current research are promising, there are still some mixed results pertaining to the effects associated with the homework-achievement relationship (Harris & Sherman, 1974). There remains a need for further research of homework performance as it affects achievement; nonetheless, with the studies showing positive effects on achievement, additional studies, methodologically improved, need to be conducted focusing on improving homework completion and accuracy in order to enhance current findings.

### **Analyses at Grade Level**

As the public focus on the relevance of assigning homework in classrooms continues, researchers now evaluate grade-level and other variables that may influence the effectiveness of homework interventions. Previous studies have suggested a positive association between homework and achievement; however certain grade levels and settings have been more emphasized than others in research. In Corwin and Kelley's meta-analysis (2013) of 16 homework interventions, nine interventions were implemented in the school setting, of which only two studies focused solely on high school students and ten focused on middle school. Middle school and high school responded more appropriately to homework interventions (Corwin & Kelley, 2013). Middle school is associated with many transitions for children as they have increased responsibility and accountability for their homework (Hong, Milgram & Rowell, 2004). In comparison to their homework completion during elementary school, middle school

children's homework performance and overall school performance decreases (Berger, 2012). According to Berger, this reduction could be attributed to the lack of adult supervision and the increased length and difficulty in homework assignments. For some students that have homework difficulties, homework completion can also be affected by the motivation of the students (Hong et al., 2004). Due to these motivational deficits, this lack of homework completion and accuracy can be the cause of additional education problems. Homework can be seen as an effective intervention in itself to improve academic performance including test scores and classroom grades (Keith & Page, 1985). Therefore, targeting homework performance can be the solution to the additional academic problems.

### **Trends in Homework Interventions**

Studies have investigated multiple effective interventions for improving homework completion and accuracy. Some examples for interventions to increase homework performance include positive reinforcement, organizational skills instruction, time management strategies, contingency contracting, group contingencies, and school-home collaboration (Langberg et al. 2012; Cooper et al., 2006; Corwin & Kelley, 2013; Olympia et al., 1994). Corwin and Kelley's meta-analysis (2013) indicated that all interventions were effective, but positive reinforcement, goal-setting, and homework routines were the most commonly included interventions. At the individual level, many homework interventions increase homework completion. Many of these studies utilize parental involvement and home-based interventions when attempting to improve homework performance. While Corwin and Kelley found that parental involvement was effective at improving homework performance, it was also clear that school-based interventions may be just as, if not more, effective (Corwin & Kelley, 2013). However, not all studies included in the meta-analysis collected data on homework completion and accuracy. Along with this data,

parental involvement was found to be a driving factor in intervention efficacy as well as praise and rewards for completion (Corwin & Kelley, 2013). This synthesis is recent; however, it analyzed 16 studies which all lacked sufficient data collection on homework accuracy and completion, thus limiting the reliability. Corwin and Kelley recognized the limitations of their study and recommended larger designs and rigorous data collection methods for future studies.

### **Group Contingencies for Homework Completion and Accuracy**

Studies taking place in the educational setting may employ group contingencies. There are three kinds of group contingencies used in the classroom. Each are distinguished by the goal each student has to achieve and by who can partake of the reward once a specified criteria is reached. An independent group contingency is in place when each student has to reach a predetermined criteria to receive access to their individual reward, and an interdependent group contingency is in place when all members of a group in the classroom can receive a reward if the whole group reaches the criteria (Skinner, Williams & Neddneriep, 2004). A dependent group contingency allows the entire group to receive a reward based on the performance criteria of one or a small number of students in the group (Skinner, Skinner & Burton, 2009). Group contingencies have been used to decrease multiple manifestations of target behaviors, including disruptive behaviors, off-task behaviors, academic engagement, and homework performance (Ascare & Axelrod, 1973; Barrish, Saunders & Wolf, 1969; Litow & Pumroy, 1975; Madaus et al. 2003; Reinhardt, Theodore, Bray & Kehle, 2009; Walker, Hiatt & Buckley, 1974).

Homework has the ability to enhance classroom performance; however results depend on including accuracy as a contingency for reinforcement (Graden, Thurlow & Ysseldyke, 1983).

Group contingencies have been shown to improve homework completion and accuracy in students with and without disabilities (Lynch, Theodore, Bray & Kehle, 2009; Theodore et al.,

2009). Harris and Sherman (1974) used an independent group contingency in the classroom to improve homework completion. Fifty-two 6<sup>th</sup> grade students were allowed to leave class early if they had 80% correct on homework. When completion and accuracy were paired with positive reinforcement, students improved on homework performance to 80% accuracy (Harris & Sherman, 1974). Madaus et al. incorporated an independent group contingency and increased accuracy and completion in five 5<sup>th</sup> grade students (2003). Using a combined interdependent and independent group contingency, Olympia, Sheridan, Jenson, and Andrews were able to improve 6<sup>th</sup> grade student's average homework accuracy by 20%; however, students did not show an increase in motivation to complete extra homework problems, unassociated with reaching their criteria, as a result of the intervention (1994). This study incorporated multiple intervention components including an independent and interdependent group contingency for individual and team reinforcement (Olympia et al., 1994). In a 2009 study, Reinhardt et al. used an interdependent group contingency and improved accuracy and performance in homework for six 4<sup>th</sup> grade students. One study compared the three types of group contingencies in an alternating treatments design and found all three contingencies enhanced homework completion in a self-contained fifth grade classroom (Lynch et al., 2009). According to results of a study by Graden et al., accuracy did improve if the manipulated variables included positive reinforcement and accurate homework completion (1983). As such, accuracy needs to be a contingency in order for learning and improvement to occur within and outside of the classroom. The importance of including reinforcement for accuracy, as well as completion, has been documented in multiple studies (Goldberg, Merbaum, Even, Getz & Safir, 1981; Harris & Sherman, 1974, Miller & Kelley, 1991).

Although many forms of group contingencies have been implemented, little research has been conducted on the effect of dependent group contingencies in the classroom. A dependent group contingency offers the motivation to receive a reward in conjunction with possible social influences to reach a predetermined behavioral goal (Skinner et al., 2004). A dependent contingency may be more practical in the classroom as the teacher does not have to observe all students based on some specified criteria (Madaus et al., 2003). Instead, the teacher observes a select few (randomly or previously assigned) based on a predetermined criterion and rewards the whole class or team if the select few reach the goal. Data collection may also be less time-intensive for the teacher since they are only required to gather data on the specific students in a timely manner.

Scientificallly-driven research is limited on the application of a group contingency to increase homework completion and accuracy in a general education classroom. At the individual level, many homework interventions have shown their effectiveness in increasing homework completion. In addition to the current state of research on improving homework accuracy at a class-wide level, a minimal amount of empirically-derived data has validly proven the linkage between homework performance and academic achievement. Many studies utilize parental involvement and home-based interventions when attempting to improve homework performance. Although these settings have proven effective, the classroom environment has also been shown to enhance homework completion and accuracy. Home-based interventions can be useful; however, treatment integrity is harder to observe outside of the school, or clinic, setting. A teacher-mediated intervention utilizes a classroom setting and the knowledge of the teacher's expectations for homework assignments. This leads to the possible acceptability and social significance of utilizing the teacher and the classroom when targeting homework performance.

Additionally, using a classroom will allow for the opportunity for all students to be exposed to the intervention. In school settings, research has focused on elementary-aged students or self-contained, special education classrooms intended for students with the highest needs that are at-risk for poor school performance. Incorporating a classroom contingency can have positive effects on multiple target behaviors of all students in the classroom. Studies conducted have failed to incorporate these necessary links to allow a generalizable intervention.

Current meta-analyses have shown that existing studies do not provide adequate data about homework completion and accuracy (Corwin & Kelley, 2013). Research should include operational definitions for all collected variables, and the methodology should focus on group design to be more generalizable to students experiencing motivational deficits. Many studies have been conducted with the parents as agents of change. While Corwin and Kelley found that parental involvement was effective at improving homework performance, it was also clear that school-based interventions may be just as, if not more, effective. This leads to the possible social validity behind having the teacher as the agent of change since they can deliver the intervention to an entire class. Although research has focused on self-contained, special education classrooms intended for students with the highest needs that are at-risk for poor school performance, incorporating a classroom contingency can also have positive effects on multiple target behaviors of students in the general education classroom. Studies recently conducted have failed to incorporate these necessary links to allow a generalizable, universal intervention.

### **Purpose of Study**

The current study sought to enhance completion and accuracy of homework in general education classrooms using an ecologically-valid agent of change: the classroom teacher. Additionally, by clearly defining all target variables involved in homework performance and

those related to academic performance overall, the goal of this study was to identify a single-component intervention (dependent group contingency) that may be effective and efficient in general education classrooms. To do so, a dependent group contingency was applied, which gathered individual and classroom data in order to enhance the current research on the utility of doing so for homework performance. Finally, the researcher sought to identify additional outcomes potentially associated with homework performance which may be deemed acceptable in the education setting. The primary research question investigated the effects of the dependent group contingency on homework completion and homework accuracy.

## **CHAPTER 2 METHOD**

### **Participants and Setting**

Four general education, sixth grade mathematics teachers in southeastern Louisiana were selected to participate. Teachers were recruited through contact with school administrators and circulation of recruitment flyers (Appendix A). Teachers selected two to three students for the dependent group contingency. Three students participated in Mr. Hotchner's classroom of 16 students. One student from this classroom was suspended multiple days during baseline data collection and was discontinued from participation in the study, consequently resulting in only two students participating in the entirety of the study from Mr. Hotchner's classroom. Four students participated in Mrs. Garcia's classroom of 12 students. Before baseline began, the teacher indicated one student was completing significantly more amounts of homework and reported she felt he did not need to continue with the study. This shift in performance may have resulted from the consent form delivered to the parents raising awareness of the student's current homework performance. This student was eliminated as a target student during this study. One student participated in Mrs. Reid's classroom of 24 students. An additional student selected in Mrs. Reid's class did not agree to participate in the study, and Mrs. Reid could not identify other specific students with motivational deficits. The fourth teacher selected four students with low academic and homework performance; however, based on their performance on the curriculum based measurements, it was determined the students had significant skill deficits and could not continue with the study.

### **Experimental Design and Data Analysis**

The original design planned for a multiple baseline design across subjects. However, an unexpected disruption in homework routine reported by teachers as a result of standardized

testing forced an alteration in the planned design. Instead, a non-concurrent multiple baseline design was utilized to analyze intervention effects on homework performance. In this approach, the researcher randomly assigned each group of individuals to varying baseline lengths. This is similar to the process of a multiple baseline design with the addition of the predetermined baselines collected at separate times; however, with research in an educational setting, a more rigorous approach would have limited the amount of sessions in both phases for each participant (Barlow, Nock, & Hersen, 2008). The treatment was implemented at different lengths across classrooms and individuals assumed to be in similar conditions (Barlow et al., 2008). When each teacher informed the researcher they would begin homework assignments, the researcher began collecting baseline data. Sessions were defined as the date a homework assignment was due. After each group of individuals reached the predetermined baseline length, implementation of treatment phases began. For example, after three sessions of homework performance were collected, the intervention phase was implemented. The treatment phase that followed began successively for the next classroom after a predetermined baseline length. Through proper data collection and manipulation, this design allows for control of extraneous behaviors and investigated a valid causal relationship between the manipulated variable and the outcome variables (Baer, Wolf, & Risley, 1968; Gaynor, Baird, & Nelson-Gray, 1999). Additionally, this design systematically analyzes the effects of the independent variable by testing the homework performance in the presence and absence of the manipulation (Barlow et al., 2008; Smith, 2012). Furthermore, a multiple baseline method allows researchers to analyze the effects of the treatment across subjects and rule out other confounding variables such as maturation (Barlow et al., 2008). Data was collected during all dates homework assignments were returned to the teacher, as identified by session number.

In order to examine the functional relation between the dependent group contingency and homework completion and accuracy, a visual analysis of the data was conducted. The primary dependent measures were homework accuracy and homework completion, reported in percentages by teachers. Data was displayed using graphs and analyzed using the following recommended methods for visual inspection: trend of data, stability within each phase, variability within and across phases, and immediacy of effect (Barlow et al., 2008; Kazdin, 1992; Kratochwill et al., 2010). Data was analyzed based on comparison of homework performance across and within sessions. Furthermore, average homework performance was analyzed and compared across phases to assess for magnitude of the change (Kazdin, 1992). This inspection sought to identify any substantial, long-lasting effects of the independent variable on homework performance as well as other measures of interest (Gaynor et al., 1999).

## **Measures**

### **Curriculum Based Measurements**

To assess whether the students' lower grade in homework was a performance concern, the experimenter administered four academic probes based on the 6<sup>th</sup> grade, national level mathematics calculations. These calculation probes were pulled from AIMSweb® and were the Math Computation forms (M-Comp). The probes and guide for administration and scoring were downloaded from AIMSweb®. This is an 8-minute test designed to evaluate the student at their grade level. It included a variety of mathematics equations, based on student's grade level and projected performance, which comprised of fractions, decimals, multiplication and division. The probes assessed the students' abilities to perform addition, subtraction, multiplication, division, use of negative numbers, and solving for variable 'x'. The researcher compared each student's median score to national norms to ensure that the student was above the 20<sup>th</sup> percentile and,

therefore, had the academic ability to complete mathematics homework. If a student did not achieve above the 20<sup>th</sup> percentile, the fourth probe was given to evaluate if the student can improve their median score to 20% to receive a reward. If the student achieved this goal, poor performance was considered a performance deficit rather than a skill deficit. The measurements were administered individually to the target students prior to baseline to determine eligibility and ensure students had a motivational deficit.

### **Student Data Record Form**

The teachers utilized a student data record form to consolidate and record all collected measures listed below. This form was completed by each teacher during both baseline and intervention sessions. The form included measures listed below pertaining to both classroom and individual performance. A sample of the record form can be found in Appendix B.

### **Homework Performance**

Homework performance was assessed based on completion and accuracy. To promote standardization in recording across classrooms, the researcher reviewed the definition of the variables with each teacher. In order to address the possible variability between classroom homework assignments, completion and accuracy were each measured based on percentages out of possible problems. For each homework assignment, the teacher recorded the amount of homework completed, defined as student showing effort and attempting to work on a problem and finding the answer in accordance with teacher's instruction. All teachers within the study assigned pencil-based work and were able to examine work and identify attempt within the realms of the definition. Additionally, the teacher recorded the percentage of homework completed accurately, defined as the student calculating and recording the correct answer to the homework problem and completing and displaying all work as instructed in the directions

(verbally stated or on homework sheet). Accuracy percentages were obtained out of the portion of attempted problems. In lieu of each teacher's grading style, accuracy was based on correct answer and no half credit was given for effort to establish consistency across teacher's grading procedure. Additionally, classroom data was collected by averaging homework attempt for each session across all students in the class. All homework performance data was recorded on the student data record form.

### **Classroom Performance**

In addition to target student performance, the researcher sought to examine effects on classroom performance due to exposure to the intervention. Although the original measure collected was operationally defined similarly to target student completion and accuracy, the daily collection of this material proved to be unfeasible for teachers as they did not originally grade homework this way in their regular routine. A modification was made, and teachers solely assessed for completion, which was collected for the same sessions as the individual data and analyzed for the percentage of students completing homework out of students present that day. Completion was graded by teachers using their regular procedure. Teachers would assess each homework assignment briefly to identify if the students showed attempt on majority of the items, and that assignment was recorded as complete. This was a dichotomous method where teachers would briefly review for attempt on the majority of homework.

### **Academic Performance**

In addition to recording the individual and classroom level data on homework performance, the teachers recorded weekly mathematics quiz grades. This grade is independent of homework performance and offered insight into additional outcomes homework performance might have on student performance. While teachers originally began collecting weekly quiz

grades, the interruption of school-wide testing did not allow for additional opportunities for quizzes once intervention phases began and analysis of this could not occur. As a result, collection of academic performance discontinued and an analysis of this data could not be conducted.

### **Treatment Integrity Form**

Treatment integrity was collected for 56% of the data sessions during the intervention phase. The experimenter observed the teacher and evaluated fidelity of implementation using a treatment integrity form. The form contained a checklist of vital components to be delivered the day assigning and the day grading homework, so whenever possible, the researcher would observe for both times. The researcher observed for the following implementation guidelines: announcing contingency rules in relation to criteria, grading and assessing for criteria, and rewarding the class for the target students reaching the criteria. Integrity was calculated in percentage as the amount of components included in an observed session. A copy of the integrity checklist can be found in Appendix C.

### **Usage Rating Profile-Intervention, Revised (URP-IR)**

Before and after implementation, each teacher rated the acceptability of the intervention based on six factors related to overall likelihood of implementing the intervention with integrity. The URP-IR is a 29-item questionnaire asking teachers to rate items based on a 6-point Likert scale (Chafouleas et al., 2011). Questions pertained to whether the teacher feels the intervention was easy to implement independently, whether the teacher will continue the intervention, and if the teacher feels the intervention was effective for its intended purpose in the study. Responses were scored and analyzed based on six factors: Acceptability, Understanding, Home School Collaboration, Feasibility, System Climate, and System Support. Overall ability to implement the

intervention was calculated in addition to responses divided accordingly to the six factors. The scale is psychometrically sound, and a factor analysis shows items load reliably on to their corresponding factor (Briesch et al., 2013). Alterations were made to verb tense when administering the rating scale post-implementation, but this modification did not change the structure or meaning of each item. Copies of the pre-intervention rating scale and the modified version of the scale are included in Appendices D and E.

### **Children's Intervention Rating Profile**

Upon completion of the intervention, all students within each classroom completed a student-centered acceptability form. The Children's Intervention Rating Profile (CIRP) is a 7-item rating scale examining each child's acceptability of the homework dependent group contingency using a 5-point Likert scale (Witt & Elliott, 1985). A copy of the CIRP can be found in Appendix F. Lower scores on items 1, 5, 6, and 7 indicated higher acceptability of the intervention. Scores on items 2, 3, and 4 were reverse-scored to calculate an average score of overall acceptability. The CIRP was modified to specify homework performance but did not change the meaning of each item, as seen in Appendix F. Participating students' responses were identified and compared across de-identified, nontarget students.

## **Procedure**

### **Consent and Assent**

Written consent was obtained from all teachers after reviewing the study's purpose and the teacher's individual responsibilities during intervention. To be included in the study, participating teachers confirmed they assigned mathematics homework at least three times per week and was due the following day.

Additionally, teachers selected two to three students for the dependent group contingency, based on the following inclusion criteria. Teachers recommended individual students in their classroom who displayed motivational deficits in mathematics homework completion and accuracy. In other words, the teacher expressed concern that the student had the ability to complete homework but lacked the motivation. At the time of student recruitment, the student was receiving at or below 60% credit on homework assignments. This may be due to lack of completion and/or accuracy. Furthermore, the student had to be earning low achievement grades in the class compared to his/her peers at the time of recruitment. This can be classified as a 79 or below on a numerical grade scale. It was not specified whether this grade was a consequence of incomplete or inaccurate homework. Teachers provided the selected students with a parental consent form, to be completed by their parent/guardian. Upon receiving parental consent, the researcher privately collected child assent and additional performance data. Copies of all consent and assent forms can be found in Appendix G. Using curriculum-based measurements, skills deficits were considered and excluded from the study based on each student's performance on their curriculum-based measurements. Students were eligible to participate in the study if they achieved above the 20<sup>th</sup> percentile on the curriculum based measurements compared to their peers at grade-level benchmarks.

### **Baseline**

Subsequent to receiving parent/guardian consent and assent, the researcher assessed the students using curriculum-based measurements to determine whether each student had a performance deficit and was eligible for the study. Once eligibility was determined, baselines were established using predetermined lengths. The teacher informed the researcher when they would be returning to their regular homework routine. At that time, the researcher informed the

teacher to collect data each session prior to introducing the intervention and provided the teacher with the student record form to track student and classroom data. Sessions were based on whenever the teacher had assigned math homework. The researcher defined dependent measures with each teacher. The teacher recorded the percentage of homework completed and the percentage completed accurately for each target student. Additionally, the teacher collected average classroom homework attempt each week. Homework performance data was collected the days the homework was due.

At this time, the teacher continued with his/her regular routine with the addition of recording the predetermined information. None of the teachers had a reinforcement system in place for homework completion and accuracy. All teachers reported grading homework based on effort, meaning students would receive a good mark for attempting the majority portion of their assignment. These marks were analyzed by the teacher at the end of the nine week grading period and homework grades were determined by teacher judgment. Homework accounted for a maximum of 10% of students' overall mathematics grades. Data was collected at the aggregated classroom level and individual student level. Individual data was collected for each target student. Teachers collected data during their availability within the last nine-week grading period of school. Length of baseline phases were predetermined and once teachers were assigning homework regularly, they would begin data collection. The researcher reviewed the data daily in order to confirm the teacher was utilizing the record form reliably.

### **Dependent Group Contingency Training**

Following baseline phase, the researcher trained each teacher to implement the dependent group contingency. Training entailed reviewing the rules to the dependent group contingency such as the announcing when the contingency starts, announcing the goal to the students, and

reinforcing students when the criteria are met. Across all classrooms, reaching the contingency criteria required homework completion of 100% and accuracy of at least 80% correct problems.

To ensure implementation occurred as designed, I utilized the recommended training procedures by Sterling-Turner et al. (2001). The teachers were trained using modeling and performance feedback until they could implement the contingency with 100% fidelity (Sterling-Turner et al., 2001). Additionally, teachers were provided a generic script that included each vital component of the contingency. Teachers determined rewards compliant with school expectations based on a brief preference assessment administered to the target students (e.g., chips, small candy). Prior to implementation, the teachers were administered the URP-IR and provided ratings of this intervention based on factors associated with treatment acceptability.

### **Dependent Group Contingency Intervention**

Subsequent to collecting baseline data and receiving training, each teacher began the dependent group contingency. Implementation of the contingency occurred at staggered, predetermined times. Mr. Hotchner began the intervention first, followed by Mrs. Garcia and lastly Mrs. Reid. The researchers met with the teacher the first day of the treatment phase and reviewed the rules and the predetermined completion and accuracy criteria required to meet the contingency. Before entering the classroom, each participating target student was pulled discreetly by the researcher to inform them that receiving the reward was based solely on their performance. While the remaining students in the classroom were told rewards were based off randomized student's homework performance, the target students understood it was based off their performance.

Every occasion homework was assigned, the teacher explained the contingency and reward to the class, addressing the goal for homework completion and accuracy for three

randomly drawn students. The following day when the assignment was due, the teacher discreetly evaluated the target students' homework assignments. All target students in the classroom were required to meet the criteria before a reward was provided. Upon reaching the predetermined criteria, the teacher announced that all students whose names she/he randomly drew achieved the goal and therefore earned a reward for their class. If the students did not reach their goal, the teacher informed the class that they did not receive their reward for the day reminding them that they will have another opportunity to reach their goal. The teacher was required to inform the students whether or not they reached their goal, but the teacher was allowed to provide the reward during a nondisruptive acceptable time of the day. The teachers were allowed to encourage the target students, but they were not allowed to identify these students in front of the class. Sessions continued until teachers no longer assigned homework.

### **Treatment Acceptability**

The teachers identified their last day to assign homework and notified the researcher. Teachers completed the same treatment acceptability rating as before implementation, with verb tense modifications. Additional follow-up questions were given to teachers to assess their perceptions of improvements, barriers, and suggestions regarding the intervention.

Additionally, the teachers allowed the researcher to collect student ratings of intervention acceptability using the CIRP (Witt & Elliot, 1985). The researcher explained the purpose of the rating scale. Students were asked to exclude identifiable information on the sheet and were notified that information would remain anonymous. Target students' responses were identified subtly upon return of the rating scale and compared to classroom responses. Average acceptability was calculated after item-analysis and reverse-scoring.

## **CHAPTER 3 RESULTS**

### **Dependent Measures**

The researcher analyzed the primary dependent measures in addition to classroom level data. Individual target students' homework completion and accuracy were separately graphed and visually inspected for magnitude and rate of change across phases to identify the effects of the intervention. All teacher and student names have been removed and replaced with pseudonyms to protect confidentiality. Figure 1 displays results throughout the study for target students' homework completion. Figure 2 displays results for target students' homework accuracy. Students' mean performance data for each phase was collected and included for analysis in Table 1. Classroom performance was recorded as number of present students showing effort on their homework assignments. This data was averaged across each phase.

### **Homework Completion**

#### **Teresa**

Visual inspection of Teresa's data indicates a stable baseline performance. Her scores were consistently 0% performance with one exception of 100% performance completed in an initial session. Upon implementation of the group contingency, the student displayed an immediate increase in performance. The trend appeared to increase towards the end sessions. A shift in level was not as evident, as performance in level remained similar to baseline performance and overlap occurred. The student increased average homework completion by 25% within six intervention sessions. Upon visual inspection, a functional relationship could not be determined with complete confidence, given the variability in performance across phases and the amount of overlapping data points observed.

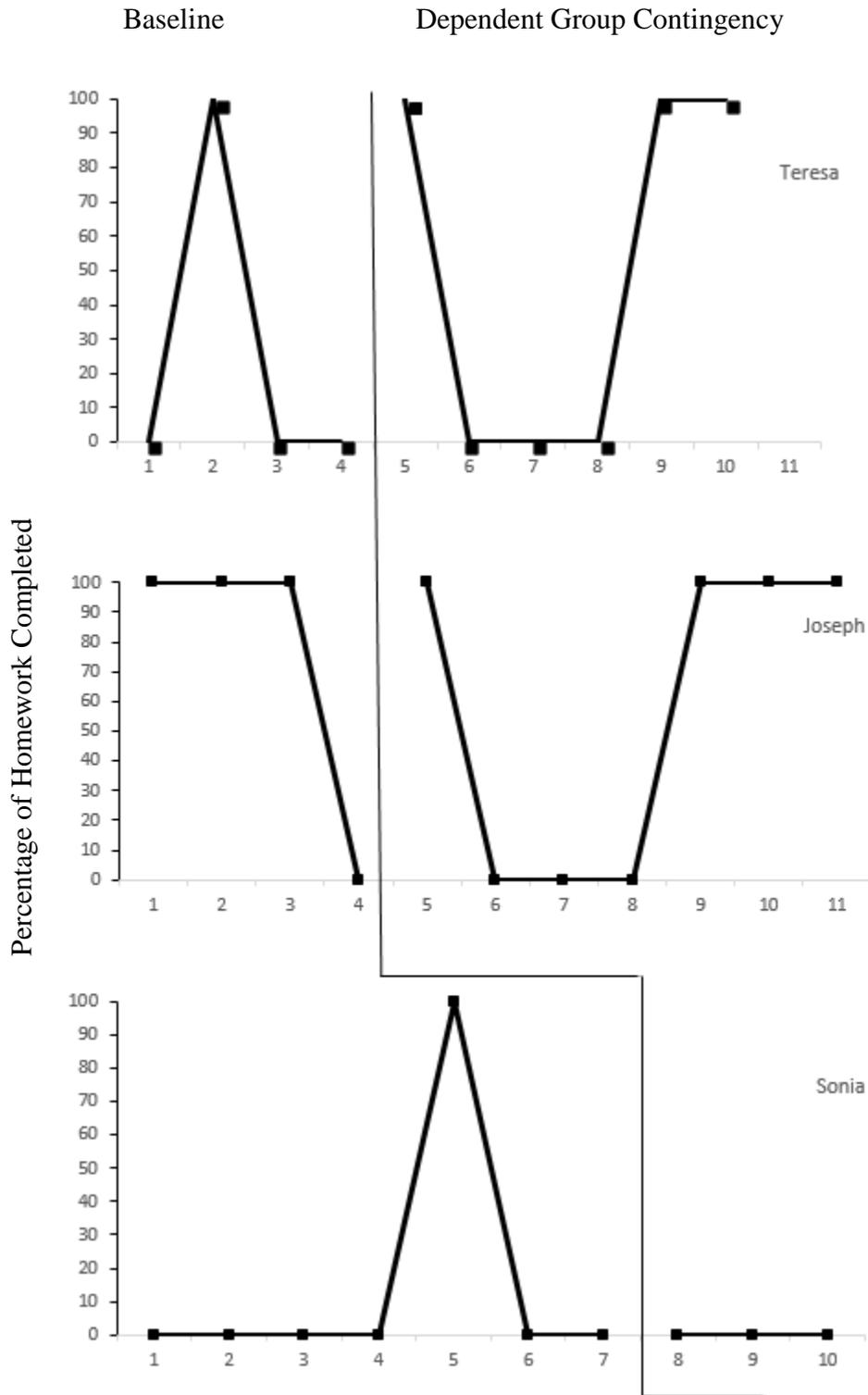
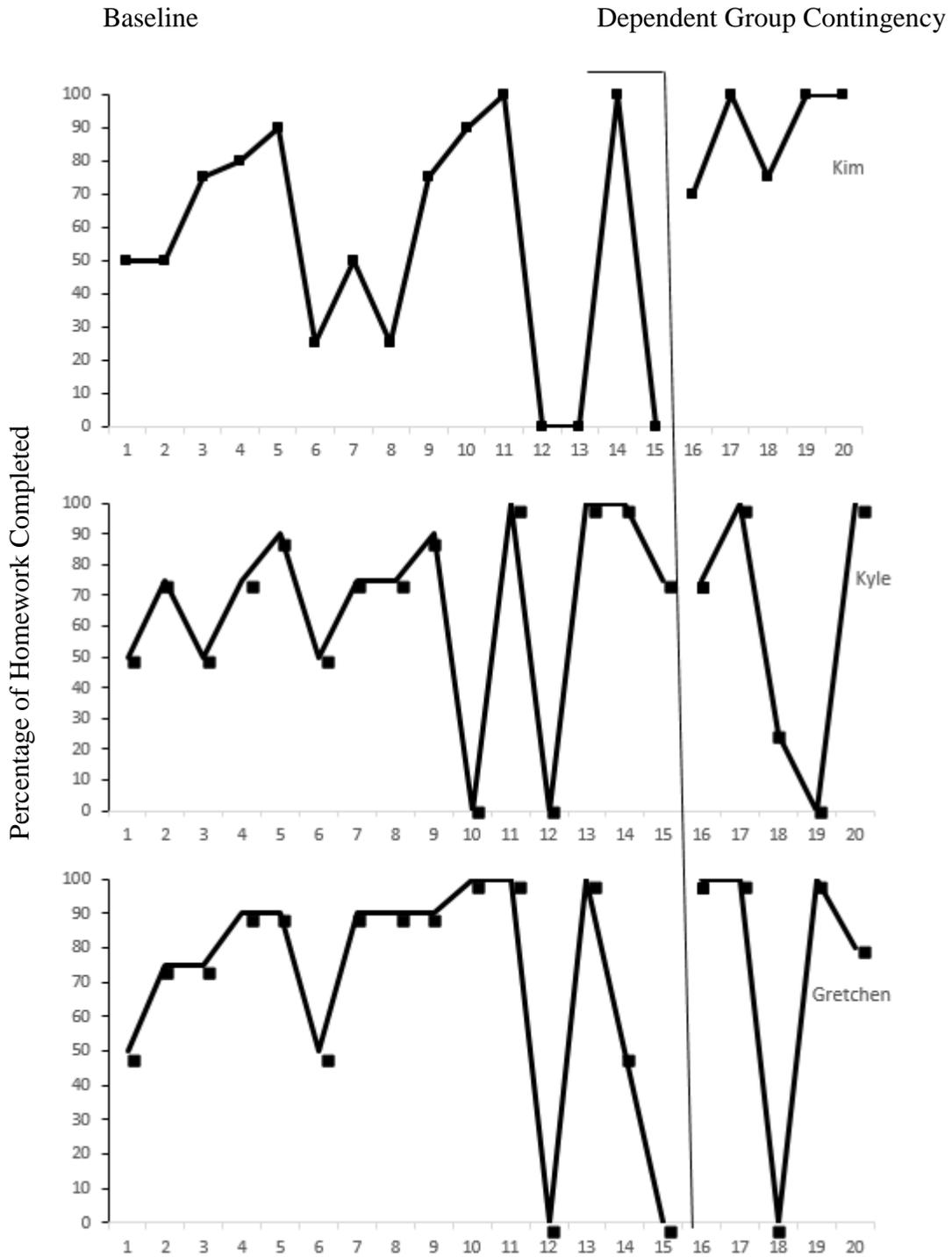


Figure 1. Homework Completion Across Target Students.

(Figure 1 continued)



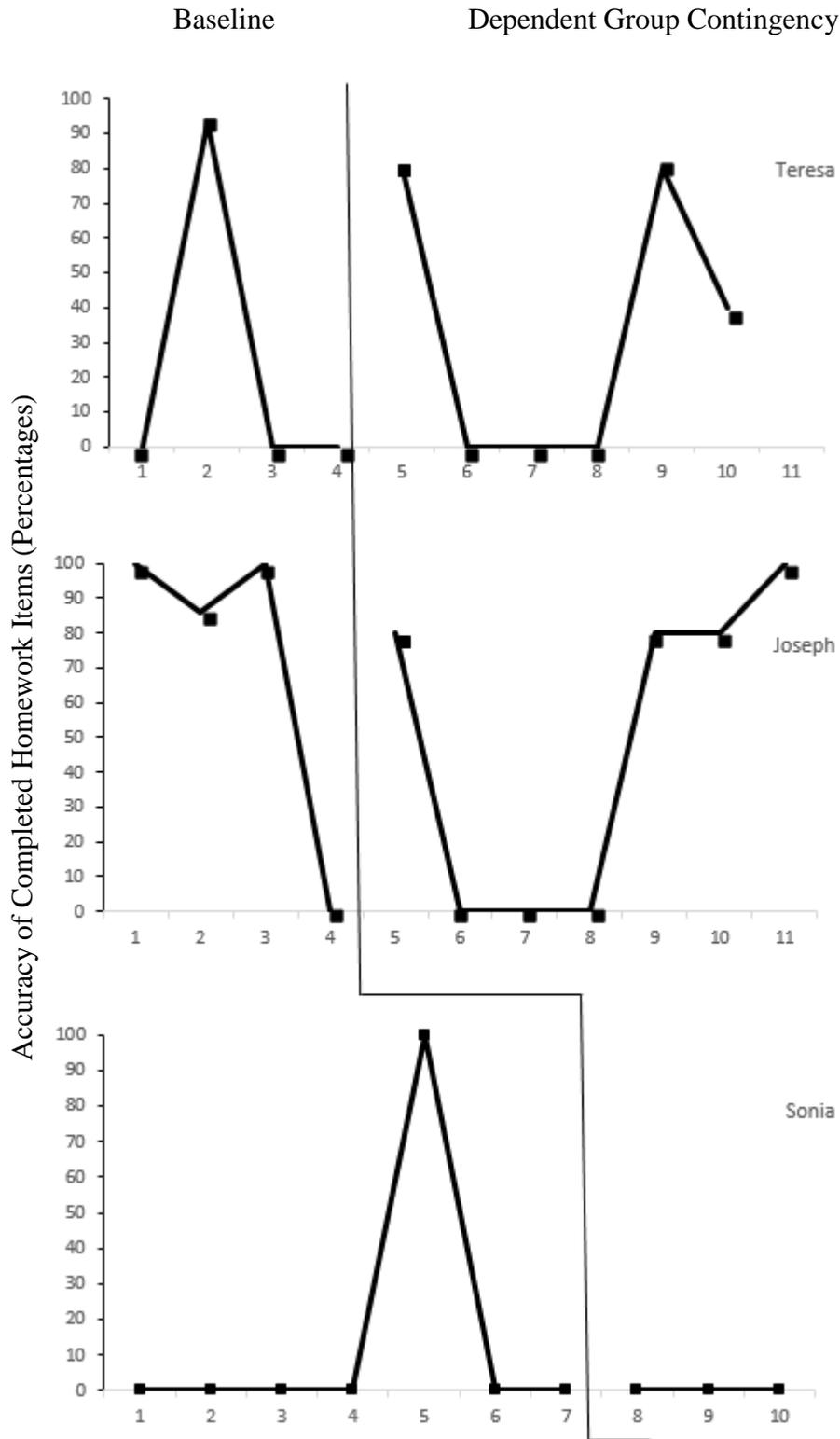


Figure 2. Homework Accuracy Across Target Students.

(Figure 2 continued)

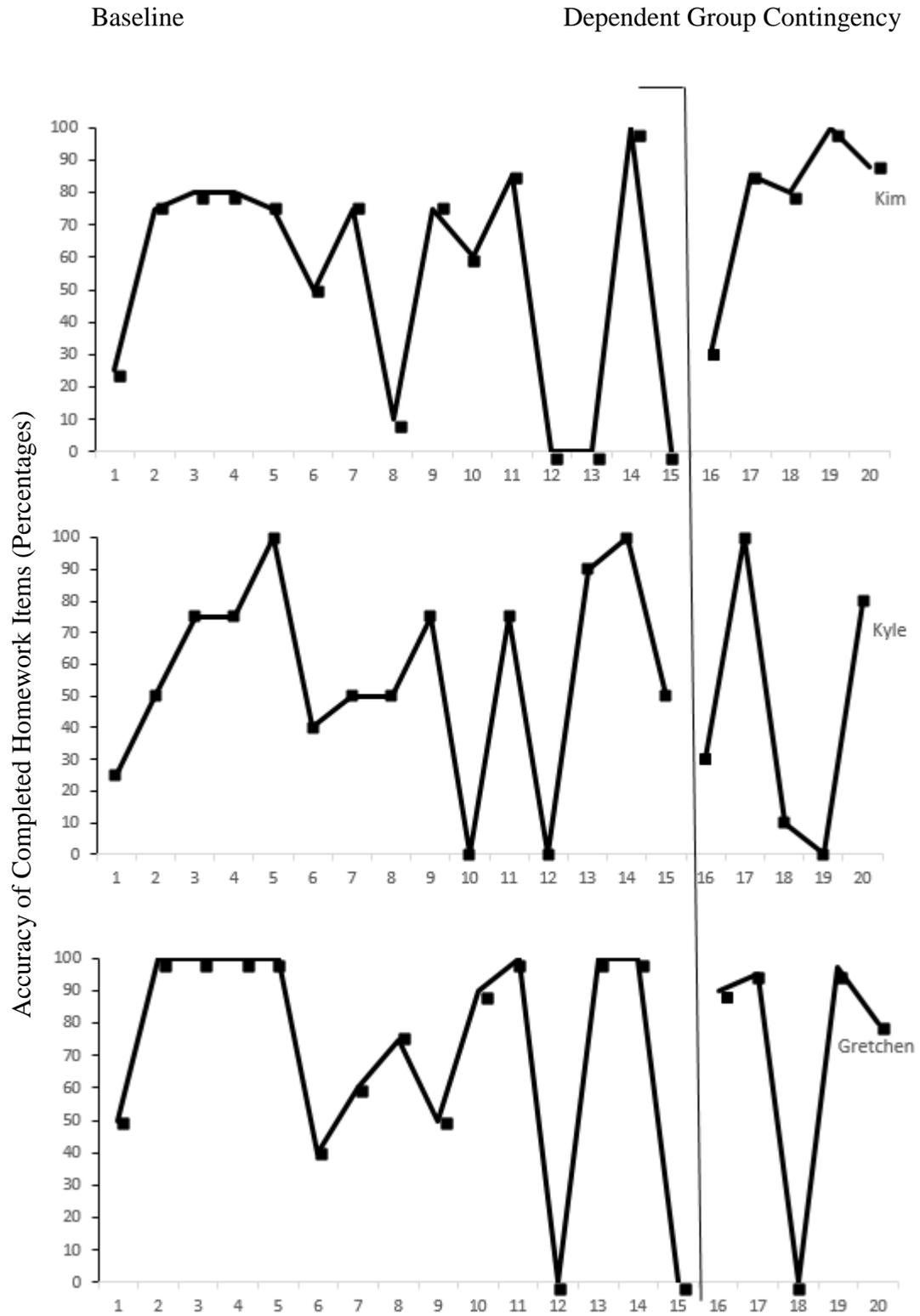


Table 1. Mean performance across phases (percentage).

Student	Baseline Average Homework Completion	Intervention Average Homework Completion	Baseline Average Homework Accuracy	Intervention Average Homework Accuracy
Teresa	25	50	23	33
Joseph	75	57	72	49
Sonia	14	0	14	0
Kim	54	89	52	76
Kyle	67	60	57	44
Gretchen	70	76	71	72

### Joseph

As shown in the second graph of Figure 1, visual analysis of Joseph's data shows consistently high performance in baseline. Upon implementation of the group contingency, Joseph did show an immediate response; however performance did not increase above baseline levels but remained consistent. The trend appeared to become positive closer towards the end of the intervention phase, but this remained consistent with the baseline performance. Level remained similar to that of baseline performance. Due to his high performance in baseline phase, average performance decreased when entering treatment phase. Taking into account visual analysis, a functional relation is not apparent between treatment and homework completion for Joseph. Given the inability to establish a steady, stable baseline, this student should have been removed from the current study.

### Sonia

The third graph of Figure 1 depicts Sonia's performance. Sonia displayed low performance during baseline. Upon implementation of the contingency, Sonia's homework completion showed no immediate or gradual response. Across both phases, she showed consistently low performance. Level and trend did not differ between phases. Additionally, the student's average performance decreased upon implementation of the intervention. This data

does not provide evidence for a functional relationship between the contingency and homework completion. Therefore, the intervention was not effective in increasing the student's homework completion.

### **Kim**

The fourth graph of Figure 1 displays Kim's performance. The student's baseline homework completion was variable. There appeared to be some counter-trends; however, lower performance and a decreasing trend was evident later in the baseline sessions. The student showed immediacy in response to implementation and showed increase in performance during the intervention phase. Additionally, the treatment level increased above the majority of baseline performance, providing some evidence for an increasing trend. When reviewing average performance data in Table 1, the student showed an increase in average homework completion by 34%. This data indicates a functional relationship between implementation of the dependent group contingency and homework completion. This data provides some support for a functional relation; though, additional data is needed to verify the functional relationship.

### **Kyle**

As shown near the bottom of Figure 1, visual analysis of Kyle's data shows minor variability in baseline homework performance with a generally increasing trend. The student did not show an immediacy in response to the intervention phase. Given the student's high performance during baseline, level and trend did not increase to display that of better performance as a result of the intervention. Instead, trend and level remained variable and low, comparable to baseline. The student's average rate of completion remained consistent throughout. A functional relationship could not be clearly established.

## **Gretchen**

At the bottom of Figure 1, Gretchen's data is highly variable within the baseline phase; nonetheless, it depicts a therapeutic trend in baseline performance. Similar to baseline performance, the student displayed an increasing trend in homework completion upon implementation of the contingency. The student did show an immediacy in response to the intervention. Given the overlap across baseline and intervention phases, a relationship cannot be established with confidence. Supplemental data supports this finding given the consistent mean performance between phases.

Although some students' performance did not stabilize during baseline, treatment phases were implemented accordingly with the predetermined sessions. High variability was indicated across student performance, an undesirable baseline for this study. At the individual level, improvement for average rate of performance across phases in homework completion was variable across subjects, as seen in Table 1. When examining average performance between phases, two students' improved their average performance by 25 and 35%, while the four remaining students showed minimal to negative responding.

When analyzing for shifts in level, multiple points of overlap across phases were identified. Given this overlap and the variability within data across and between phases, a functional relationship could not be established between the contingency and homework completion. Across five students, a rapid change in performance was examined in response to the beginning of treatment phase. Therapeutic trends were not clearly identified in the treatment phases. Additionally, some baseline performance began to depict a positive trend, an undesirable responding in this study. Shifts towards a predicted positive trend were noted for two students; however, additional data points would be needed to confirm this prediction. Visual inspection of

all intervention data did not indicate a functional response to the intervention. Kim's data may indicate a moderate treatment response; however, additional sessions were needed to report this finding with full confidence. Implications for interpretation of the variability in this data are discussed in the following sections.

### **Homework Accuracy**

#### **Teresa**

As shown in the top graph of Figure 2, Teresa's data indicates consistently lower baseline performance with low variability. Baseline performance stabilized as sessions continued. The student displayed an immediate response to the intervention, with an increase in homework accuracy. Although more data points were above the majority of baseline accuracy rate, the students' data remained variable and did not show a change in trend, thus continuing a negative trend. A shift in level did not occur, and more sessions resulted in a return to baseline performance. Average rate in performance, as seen in Table 1, shows a small increase in rate of accuracy in the intervention phase compared to baseline performance; however, this does not support a functional relationship. After visual inspection of this data, a functional relation is not evident.

#### **Joseph**

In the second graph of Figure 2, Joseph's performance stabilized in baseline to remain consistently high. This characteristic of data is undesirable in a study seeking low baseline performance and proved problematic in determining the effect of the contingency. Joseph did not show an immediacy in responding compared to baseline. Given Joseph's initially high performance, the student's level did not depict a shift and remained lower than the level of performance in baseline phase. Average performance for accuracy during the intervention phase

decreased compared to baseline. Trend did show an increase after five sessions in the intervention phase; however, this is comparable to baseline performance and one cannot clearly assume a functional relationship.

### **Sonia**

As displayed in the third graph of Figure 2, Sonia's baseline performance remained stable. Upon implementation of the group contingency, the student did not display an immediacy in responding or a positive shift in trend and level. The student continued with lower performance. Average performance, as seen in Table 1, remained consistently low. Taking visual analyses into account, the student did not show a response to the intervention, and a functional relationship could not be established between the contingency and homework performance.

### **Kim**

As seen in the fourth graph of Figure 2, Kim's baseline performance was moderately variable, but the majority of her accuracy remained below 75%. Taking variability into account, a small decreasing trend could be noted. Upon implementation of the group contingency, the student showed an immediate response compared to previous session performance. There was an immediate, positive shift in trend and level, a desirable outcome. Average performance increased by 24%. This information provides evidence of a functional relationship between the contingency and homework accuracy.

### **Kyle**

The fifth graph of Figure 2 displays Kyle's performance. Baseline data indicates a mild increasing trend, given the variability and instances of countertrend. Stabilization did not occur, and the student continued to display a wide range of performance (range: 0 – 100%) during baseline. Given the implementation of the contingency, Kyle did not show an immediate increase

in rate of accuracy. Additionally, trend continued to remain non-directional and level did not show an increase. Majority of intervention data points remained below baseline performance. Average rate of performance decreased by 13%. This information does not provide reasonable data to determine a functional relationship.

### **Gretchen**

Visual analysis of Gretchen's homework accuracy revealed a positive trend established in baseline phase. Upon implementation of the contingency, the student showed an immediate response; however, trend and level remained consistent with pre-intervention performance. Average performance remained consistent across phases, with a 1% increase in the intervention phase. Gretchen had continued positive homework performance in both phases. Visual analysis concludes that homework performance cannot be determined by intervention efficacy.

As with homework completion, change in performance across phases was variable. As seen in Table 1, three students had an increased average rate of accuracy, ranging from negligible to modest. However, the performance of three other students decreased in average accuracy. One student's performance demonstrated a positive, stable trend before the intervention. As a result, treatment efficacy cannot be established. When analyzing level, intervention data overlapped with baseline data and did not indicate significant increase in level at treatment for any student. Variability was present in the intervention phase, as some students returned to performance similar to baseline. For trend, one student, Kim, showed a systematic increase in performance as well as an immediate reaction to the initial intervention. This one student's data does not provide enough evidence that the contingency was effective in targeting accuracy.

### **Classroom Performance**

Teachers recorded the amount of students that returned and displayed effort on their homework. One class increased from 20% completion to 26% completion. The two other classes decreased by 4 and 10% upon implementation of the contingency. As a result, classroom performance remained consistent throughout the study and treatment efficacy could not be established. This could be a result of the recording method of teachers, as completion was only assessed briefly and the variable aligned more with recording attempt. Consequently, data might not be an accurate representation of true completion and will be discussed in later sections.

### **Treatment Integrity**

Teachers were recommended to implement 100% of the intervention components. They were informed that they would be observed for fidelity of these intervention components by the researcher. Two of the three teachers used the generic script when announcing the contingency to their classroom. Observation for treatment integrity occurred for 56% of the classroom observations. Average treatment integrity across classrooms during the intervention phase was 96%. Although implementation fidelity was never below 80%, the researcher would provide constructive feedback to the teachers and offer quick booster sessions reminding them of intervention components (e.g., reviewing the reward) and to continuously record data.

### **Teacher Acceptability**

Each teacher completed the URP-IR before and after the intervention. Ratings were graphed and compared across phases and classrooms, see Table 2. Higher ratings on the Acceptability, Understanding, Feasibility, and System Climate scales indicate more favorability towards the intervention. Higher ratings on the Home/School Collaboration scale indicated

Table 2. Teacher acceptability ratings.

Teacher	Acceptability		Understanding		Home/School Collaboration		Feasibility		System Climate		System Support	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Reid	4.44	4.33	5	5	6	6	4	4.83	4	4	4.33	2.67
Hotchner	5	5.11	5	5.33	5.33	5.33	4.83	4.83	5.4	5.4	4	4.67
Garcia	5.70	5.33	6	5.33	4	3.66	5.33	4.33	5.8	5	2	3.67

parents and additional home supports are needed to implement this intervention. Lower ratings on System Support indicate a greater ability to implement the intervention without the need of additional support and supervision. There is some variability in responding to a small degree, but overall all teachers rated the intervention as highly acceptable.

As seen in Table 2, Acceptability and Understanding were rated consistently high across teachers and phases (response range: slightly agree – agree). Perceived need for home-school collaboration varied. For instance, Mrs. Reid and Mr. Hotchner’s responses remained consistent before and after implementation, both strongly agreeing parental involvement was necessary (response range: agree – strongly agree). Post-implementation, Mrs. Garcia’s rating decreased closer towards slightly disagree, indicating a smaller need for parental involvement.

Mrs. Reid’s Feasibility ratings increased while Mr. Hotchner’s and Mrs. Garcia’s remained stable, all indicating the intervention was practical to implement (see Table 2; slightly agree). Pre-implementation, two teachers reported there was a need for more system support; however at post-implementation, Mrs. Reid’s responses changed to a decreased need for consultation and supervision. Mr. Hotchner’s responses remained stable agreeing that support is needed, while Mrs. Garcia’s remained lower, indicating additional ongoing consultation is unnecessary to implement this intervention. After implementation, Mrs. Garcia reported additional consultative supports were not necessary for them to implement the intervention, and the procedures were easy to understand and implement self-reliantly. Across School Climate scales, all teachers reported their school and current practices aligned with the procedures and purpose of this intervention.

Teachers were also asked to respond to follow-up questions assessing important factors related to this study: individual and classroom benefits, barriers, and suggestions for future directions. Two teachers reported the individual students turned in a noticeable increase in homework due to the addition of the incentive. Mrs. Reid noticed no direct benefit to the individual student. Additionally, one teacher noted the increased homework performance led to increased attentiveness in class and higher test and quiz grades. Mrs. Garcia noted her students began demonstrating helping behavior towards their peers to increase chance of receiving reward. All teachers agreed the randomized dependent group contingency motivated the class to complete homework; however, one teacher noted that class interest waned upon the target student not reaching criteria for multiple occasions.

Teachers were also asked to identify any possible barriers impeding the effectiveness of the intervention. All teachers noted standardized testing disrupted the regular homework routine and students' motivation to complete work outside of testing. School policy did not allow teachers to assign homework at specific times during school-wide practice testing and testing varying by school. Two teachers identified parental involvement was needed as an important factor in effectiveness, while Mrs. Garcia stated parental involvement was unnecessary, thus indicating a smaller need for parental involvement. Although Mrs. Garcia rated Feasibility highly on the URP-IR, she later reported she would not be able to complete all the steps independently but still rated the intervention as Feasible (slightly agree); therefore, there was a discrepancy in responding. Mrs. Reid indicated peer pressure did not encourage all students to complete homework. Teachers offered recommendations for future implementation including increasing parent buy-in and involvement, starting earlier in the school year, and establishing an electronic homework tracking system for efficient scoring and record-keeping.

## Student Acceptability

Upon completion of the intervention, student acceptability was collected and compared across individual item responses and classrooms, see Table 3. Lower scores of 1 or 2 indicated strong to moderate favorability towards the intervention. Scores were relatively uniform across classes and target students suggesting this was a highly accepted intervention. The two target students in Mr. Hotchner's classroom rated the intervention as highly favorable and effective and reported this intervention would benefit other students without causing negative social issues. Compared to average classroom responses, there were similar ratings with the exception of the classroom identifying there were better ways to improve homework performance. The individual student in Mrs. Reid's classroom reported the intervention was acceptable but did not report this would be an effective method for other children. Mrs. Reid's classroom reported being undecided about the problems this could cause with peers but stated there were better ways to target homework performance. In Mrs. Garcia's classroom, three target students' responses were highly favorable of the intervention, indicating the contingency was fair, enjoyable, and helpful to all children. Responses were indifferent related to questions asking if it could cause problems with friends and if there are better ways to handle this problem.

Table 3. Student and Class Acceptability Ratings

Informant	Average Acceptability
Hotchner's Target Student Responses	1.43
Hotchner's Class Responses	2.12
Mrs. Reid's Target Student Responses	1.86
Mrs. Reid's Class Responses	2.17
Mrs. Garcia's Target Student Responses	2.24
Mrs. Garcia's Class Responses	2.14

Within items, there remained discrepancies between target student and average classroom responses. Aggregated classroom data indicated the intervention was highly favorable and helpful; however, target students felt there were better methods to target homework performance. Additionally, target students felt the intervention was a good way to target homework performance, but classwide responses reported there are better methods to effectively target homework performance. At the overall analysis comparing target with aggregated classroom responses, the intervention was highly favorable (see Table 3). There was agreement that this intervention would be good for other kids. On average, individual students and aggregated classroom responses were very much (1) to somewhat (2) acceptable of the intervention, indicating social validity of the contingency.

## CHAPTER 4 DISCUSSION

The purpose of this study was to examine the effectiveness of a dependent group contingency in increasing homework performance in a general education classroom. Additionally, the researcher sought to evaluate teacher and student acceptability as well as classroom outcomes, more specifically examining the need for parental involvement and increasing homework performance to those also exposed to the intervention when administered to the classroom.

Although there was some positive effect on mean performance and one student demonstrated a moderate response to the intervention, the data was highly variable across phases and baseline control and logic were unable to be demonstrated. Taken this into account, the dependent group contingency did not appear to be efficacious in increasing homework completion or accuracy. Response to the contingency occurred immediately across students; however, stability in performance and level was variable. Students responded to the novelty of the reinforcement component but performance was not always maintained. Baseline performance across students should additionally be noted as some students in Mr. Hotchner's and Mrs. Garcia's class were demonstrating some positive performance and variability in performance before the intervention; however, given the non-concurrent baseline timeline, waiting to implement the intervention phase until baseline was stable was unfeasible. When investigating the trend across homework completion, two students demonstrated a shift in trend, meaning motivation to attempt homework increased. Overlap with baseline still occurred in completion; students didn't demonstrate high maintenance upon implementation of the contingency. Three students displayed a moderate shift in level; however, three students' data continued to overlap with baseline performance. This could be a result of high performance during baseline or

ineffectiveness of the contingency; therefore, a largely acceptable functional relationship could not be determined subsequent to a visual analysis. Homework completion showed a greater increase in response to the intervention, although accuracy displayed overall positive response as well. Mrs. Reid's participating student did not respond. Some students' baseline performance was high, thus contributing to overlap across phases. Given the variability within performance and across analyses, caution should be taken when forming conclusions from this data. Consequently, additional data points would be needed to ensure stability in magnitude and rate of change.

As for homework accuracy, two students showed an immediate response to the contingency, but did not maintain this performance. Two students demonstrated a shift towards a positive trend. Two students demonstrated an increase in level compared to majority of baseline rates. Overlap between phases continued across all students.

This is the first study analyzing performance at the general education setting, and limitations existed in the execution of the present study due to school testing restraints. Preliminary data suggests this contingency may not be useful in improving motivation and consequently improving student's homework completion. Similar evidence was established for accuracy. When analyzing classroom level attempt, classroom performance remained consistent across phases, indicating social influences may not be reinforcing enough to motivate all students to increase homework completion. Additionally, the randomization of students chosen might also diminish responsibility to complete homework as chances of being called are smaller. As for both dependent measures, additional data is necessary before establishing a clear treatment effect with this method. More replications of this study should occur throughout the school year and collection of additional academic performance is recommended.

Results from pre and post intervention acceptability rating forms of the teacher are positive and indicate consistently high scores on six factors related to social validity of the intervention, more specifically, the increased likelihood that the teacher will continue to use the intervention to improve classroom performance. An important finding from the acceptability measure uncovered teacher's attitudes towards additional system support, indicating additional supports and resources as unnecessary to implement the intervention effectively while one teacher identified system supports should remain minimal. Additionally, one teacher rated the inclusion of a home component as unnecessary, indicating inclusion of a parental component may not be necessary given this intervention. The high integrity collected also provides insight as to the social validity of the intervention, suggesting long-term implementation conducted by a typical agent in the schools is feasible.

Additionally, this study reviewed classroom performance to identify additional benefits this study could contribute. Early data indicated that the classroom completion performance remained consistent across systems; however this report should be concluded with caution. The classroom data might not be a true representation of performance. Teachers reviewed homework briefly to determine completion by either briefly glancing at effort or general attempt to return the homework. This was not systematic nor consistent across teachers, thus the criterion for recording during baseline and intervention sessions might overrepresent or underrepresent performance and an actual, systematic analysis could not be completed to identify positive or negative causality.

This intervention was a conceptual replication of effective intervention components from other studies with the modification in a general education classroom. Given time and resource demands of teachers in schools, it may not be feasible or realistic for teacher to implement

individual contingencies. This approach offered insight into a potentially realistic way for changing classwide homework behavior. In other words, this study provides information on the ease of implementation and acceptability of one intervention and its ability to target multiple individuals in a classroom, replacing commonly used and more time-intensive individual contingencies. Primary analyses do not establish evidence for using the contingency; however, it is recommended to continue research in this area with modifications.

### **Limitations and Future Research**

As this study was implemented within the public school system and not in a highly-controlled setting, limitations did exist. First, the public school system's emphasis on tracking and grading homework completion and accuracy is minimal. Teachers are not required to grade any homework and are asked to limit the amount of homework accounting for a student's overall grade (10%). This directive has been misinterpreted by many teachers in the district, and particularly by the teachers participating in the study, to only grade homework based on general effort on a letter-grade scale. As a result, accuracy is overlooked in the classrooms, and it was therefore difficult for teachers to consistently grade and record homework based on the newly introduced procedures from the study. Modifications were made to ensure feasibility in recording, so data collection was adapted to their needs. As a result, classroom performance was averaged and was collected on a weekly basis. Therefore, classroom analyses should be interpreted with restraint until more rigorous tracking occurs in the classroom. A more rigorous approach to collecting classroom data would result in the capability of experimental analysis.

Second, the lack of consequences for homework completion did not motivate the students before the intervention began. Although the rewards were established based on an informal preference assessment, age of participants and other factors should be taken into account. For

instance, adolescents might require more potent reinforcers inaccessible to them in other settings to increase their effect, or reinforcers should be delivered to students at an increased schedule comparable to current reinforcement delivery schedule (Michael, 1993; Timberlake & Farmer-Dougan, 1991). To supplement that, the population at hand were older and the reinforcers were freely independent of the intervention. The students were able to freely access the reinforcer outside of the classroom, potentially diminishing the reinforcer's effects. The reward system might have been supplemented with the additional, more powerful incentive of a higher letter grade if a different grading system was used within the school system for homework tracking. Future directions would imply the inclusion of the parent component to provide more potent, accessible reinforcers outside of the classroom limitations. The addition of a negative consequence for homework performance might be useful in establishing an effective consequence system since some students did not find the sole addition of the reinforcer motivating. Therefore the reward system established was ineffective on its own but could not be increased in intensity due to cost. Future directions should take this information into account when replicating this study.

The school-wide testing during the study also produced constraints on available data points. All teachers reported the constraints of testing eliminated additional opportunities to assign homework. This standardized testing was based on state law, but beginning the contingency earlier in the semester, would allow for more sessions and a better analysis of the effect. The standardized testing might also have produced fatigue on the students and diminished their interest in the reinforcer. In other words, the benefits of not doing the homework outweighed the benefit of reinforcer.

Additional limitations regard the contingency procedures. Although the procedures were introduced for ethical concerns, covertness of the target students could have negatively impacted the study. Since students did not feel any accountability from their peers, target students might not have felt motivated to achieve the contingency goal. Peer influence might be more effective when target students are easily identified. Furthermore, classroom performance might have been affected given this procedure. Classrooms' consistent performance and lack of responding to the intervention could have been developed from learned helplessness. In one class that did not earn a reward, the students returned to baseline performance after two sessions. This area should be researched further when determining whether or not to use student names or remain discreet.

Variability in responding might also be attributed to the lack of control with homework assignments and another unaccounted for variable might have confounded the study. On some days, homework was one short page while others were lengthier ones. This could have accounted for the overlap across phases and could be controlled in a future study by standardizing homework assignments and length.

In regards to future directions when replicating this study, additional information should be collected in order to identify other valid outcomes and to determine a stronger functional relationship between the contingency and homework performance. Since school-wide testing disrupted academic data collection; an additional pre and post measure should be included to assess for change in academic skills. A recommended measure to include would be the Social Skills Improvement System – Performance Screening Guide (SSIS-PSG; Gresham & Elliott, 2008). This measure is completed by the teacher using a 5-point Likert scale assessing for pro-social behavior, motivation to learn, reading skills, and math skills. Since this is a novel approach, lengthening of data phases when possible is recommended.

Additionally, starting the intervention earlier in the school year would also lengthen phases and allow for more stability and proper analyses to demonstrate the treatment effect. To control for variability within the data, using a more responsive approach to baseline and treatment implementation is recommended. For instance, a multiple baseline design would allow for criteria for phase change to be more responsive to baseline performance and in determination for phase shift order across students. In other words, the research can analyze the baseline pattern and determine if treatment should be withheld until more data points show a desired pattern or if the intervention phase can begin. Given this approach, variability can be controlled. Although necessary given the less-controlled conditions during this study, utilizing the non-concurrent baseline resulted in less stability in baseline performance.

A final recommendation would be including a measure to analyze parental involvement for each student. Contacting parents and generally asking their involvement would be acceptable, but a more quantitative approach to assess for parental influence is recommended. Access to this information would allow researchers to identify, and potentially control for, unknown factors influencing our dependent measures. Replication and slight modification of this procedure are necessary in determining a stronger functional relationship between the dependent group contingency and homework performance in the general education classroom; however, preliminary analyses have identified the positive influence this procedure can have in schools.

Overall, this study offers valuable insight for future intervention in schools. Using these recommendations for future research has the potential to impact current school practice and homework performance.

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## APPENDIX A RECRUITMENT FLYER

***Do you have students who you feel are unmotivated to complete their homework and are at-risk for receiving a lower grade?***

***Do you feel like you've tried to help and it's just not working, or you don't know how to help? Want some help?***

### **We are happy to help!**

Sarah Metallo, a student in the LSU School Psychology Doctoral program, is seeking four, mathematics teachers willing to refer three students in their respective classroom and willing to implement a classroom intervention to contribute to her research study. She will be working with fellow students in her program under the supervision of Dr. Frank Gresham, Ph.D.

### **What we are seeking:**

- 6<sup>th</sup> grade mathematics teachers interested in enhancing their classroom's educational performance
- Mathematics homework is typically assigned 3-4 times per week
- 3 students with a 60% homework average and a 70% average mathematics grade, or lower

### **What will teachers do?**

You will be asked to refer three students fitting the criteria listed above and conduct a classroom intervention. LSU consultants will work with you as you record target students' homework and academic data and average classroom homework data. The study will continue for approximately 3-4 months. Your participation will benefit greatly to the amount of current data seeking to understand ways to increase students' motivation to enhance homework performance and positive outcomes associated with homework performance.

### **What will LSU consultants do?**

LSU consultants will work closely with you during this study to offer training on implementation of the classroom intervention. You won't be on your own - we'll follow up to troubleshoot any problems that arise with the intervention and monitor the intervention's effectiveness and be available for any additional guidance you seek. After the study, we will also be happy to help you if you have any other classroom concerns. We'll provide you with skills that are useful now and in the future with the goal of making teaching more enjoyable for you and facilitating student success.

### **How can you contact us?**

If you would like to learn more or participate in the study, please contact Sarah Metallo at [smetal1@tigers.lsu.edu](mailto:smetal1@tigers.lsu.edu), or 803-431-6492.



**APPENDIX B  
STUDENT DATA RECORD FORM**

Date Assignment Due	Student ID	Target Student			Average Classroom		Did class receive reward?
		Homework Completion (% of assigned problems effort and attempt were shown)	Homework Accuracy (% correct out of all assigned problems)	Weekly Math Quiz Grade (applicable every Friday)	Average Homework Completion (%)	Average Homework Accuracy (%)	

**APPENDIX C**  
**TREATMENT INTEGRITY FORM**

|Dependent Group Contingency Treatment Integrity Form

Date \_\_\_\_\_ Rater \_\_\_\_\_ IOA Rater \_\_\_\_\_

- |  |     |    |
|--|-----|----|
| 1. Teacher informs class of group contingency rules.                               | Yes | No |
| 2. The teacher announces the goal for homework completion and accuracy and reward. | Yes | No |
| 3. The teacher grades student(s)' homework completion and accuracy.                | Yes | No |
| 4. The teacher informs class if they have received goal.                           | Yes | No |
| 5. The teacher rewards class if they have reached criteria.                        | Yes | No |
| 6. The teacher records daily and weekly data (if applicable).                      | Yes | No |

Items Completed \_\_\_\_\_ / \_\_\_\_\_

Total integrity \_\_\_\_\_%

## APPENDIX D URP-IR FORM



# URP-Intervention

**Directions:** Consider the described intervention when answering the following statements. Circle the number that best reflects your agreement with the statement, using the scale provided below.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1. This intervention is an effective choice for addressing a variety of problems.	1	2	3	4	5	6
2. I would need additional resources to carry out this intervention.	1	2	3	4	5	6
3. I would be able to allocate my time to implement this intervention.	1	2	3	4	5	6
4. I understand how to use this intervention.	1	2	3	4	5	6
5. A positive home-school relationship is needed to implement this intervention.	1	2	3	4	5	6
6. I am knowledgeable about the intervention procedures.	1	2	3	4	5	6
7. The intervention is a fair way to handle the child's behavior problem.	1	2	3	4	5	6
8. The total time required to implement the intervention procedures would be manageable.	1	2	3	4	5	6
9. I would not be interested in implementing this intervention.	1	2	3	4	5	6
10. My administrator would be supportive of my use of this intervention.	1	2	3	4	5	6
11. I would have positive attitudes about implementing this intervention.	1	2	3	4	5	6
12. This intervention is a good way to handle the child's behavior problem.	1	2	3	4	5	6
13. Preparation of materials needed for this intervention would be minimal.	1	2	3	4	5	6

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		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
14.	Use of this intervention would be consistent with the mission of my school.	1	2	3	4	5	6
15.	Parental collaboration is required in order to use this intervention.	1	2	3	4	5	6
16.	Implementation of this intervention is well matched to what is expected in my job.	1	2	3	4	5	6
17.	Material resources needed for this intervention are reasonable.	1	2	3	4	5	6
18.	I would implement this intervention with a good deal of enthusiasm.	1	2	3	4	5	6
19.	This intervention is too complex to carry out accurately.	1	2	3	4	5	6
20.	These intervention procedures are consistent with the way things are done in my system.	1	2	3	4	5	6
21.	This intervention would not be disruptive to other students.	1	2	3	4	5	6
22.	I would be committed to carrying out this intervention.	1	2	3	4	5	6
23.	The intervention procedures easily fit in with my current practices.	1	2	3	4	5	6
24.	I would need consultative support to implement this intervention.	1	2	3	4	5	6
25.	I understand the procedures of this intervention.	1	2	3	4	5	6
26.	My work environment is conducive to implementation of an intervention like this one.	1	2	3	4	5	6
27.	The amount of time required for record keeping would be reasonable.	1	2	3	4	5	6
28.	Regular home-school communication is needed to implement intervention procedures.	1	2	3	4	5	6
29.	I would require additional professional development in order to implement this intervention.	1	2	3	4	5	6

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 USAGE RATING PROFILE

**APPENDIX E**  
**URP-IR MODIFIED FORM**

**URP-Intervention (Post-Measure)**

Teacher \_\_\_\_\_ School \_\_\_\_\_ Grade \_\_\_\_\_

Week \_\_\_\_\_ Date \_\_\_\_\_

*Please rate the intervention along the following dimensions. Please circle the number which best describes your agreement or disagreement with each statement.*

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Disagree Slightly</b>	<b>Slightly Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
1. This intervention was an effective choice for addressing a variety of problems.	1	2	3	4	5	6
2. I needed additional resources to carry out this intervention.	1	2	3	4	5	6
3. I was able to allocate my time to implement this intervention.	1	2	3	4	5	6
4. I understood how to use this intervention.	1	2	3	4	5	6
5. A positive home-school relationship was needed to implement this intervention.	1	2	3	4	5	6
6. I am knowledgeable about the intervention procedures.	1	2	3	4	5	6
7. The intervention was a fair way to handle the child's behavior problem.	1	2	3	4	5	6
8. The total time required to implement the intervention procedures was manageable.	1	2	3	4	5	6
9. I would not be interested in implementing this intervention.	1	2	3	4	5	6
10. My administrator was supportive of my use of this intervention.	1	2	3	4	5	6
11. I had positive attitudes about implementing this intervention.	1	2	3	4	5	6
12. This intervention was a good way to handle the child's behavior problem.	1	2	3	4	5	6

13. Preparation of materials needed for this intervention was minimal.	1	2	3	4	5	6
14. Use of this intervention was consistent with the mission of my school.	1	2	3	4	5	6
15. Parental collaboration was required in order to use this intervention.	1	2	3	4	5	6
16. Implementation of this intervention was well-matched to what is expected in my job.	1	2	3	4	5	6
17. Material resources needed for this intervention were reasonable.	1	2	3	4	5	6
18. I implemented this intervention with a good deal of enthusiasm.	1	2	3	4	5	6
19. This intervention was too complex to carry out accurately.	1	2	3	4	5	6
20. These intervention procedures were consistent with the way things are done in my system.	1	2	3	4	5	6
21. This intervention was not disruptive to other students.	1	2	3	4	5	6
22. I was committed to carrying out this intervention.	1	2	3	4	5	6
23. The intervention procedures easily fit in with my current practices.	1	2	3	4	5	6
24. I needed consultative support to implement this intervention.	1	2	3	4	5	6
25. I understood the procedures of this intervention.	1	2	3	4	5	6
26. My work environment was conducive to implementation of an intervention like this one.	1	2	3	4	5	6
27. The amount of time required for record keeping was reasonable.	1	2	3	4	5	6
28. Regular home-school communication was needed to implement intervention procedures.	1	2	3	4	5	6
29. I required additional professional development in order to implement this intervention.	1	2	3	4	5	6

Follow-up Questions:

Has this intervention helped the individual students in your class? How?

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Has this intervention helped the overall classroom performance of homework?

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Were there any obstacles or barriers to continuing the intervention in your class (e.g., parental involvement, school policy for homework, testing)?

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Do you have any recommendations to improve the intervention and implementation of the intervention?

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## APPENDIX F CIRP FORM

### Children's Intervention Rating Profile

(Witt & Elliott, 1985)

Date: \_\_\_\_\_

We are interested in learning your ideas about the homework program that you are now finishing. Below are some sentences. You may or may not agree with the sentences. For each one, please circle the number that describes how much you agree or disagree with the statement. Using the following guide:

- 5 = I disagree very much  
4 = I sort of disagree  
3 = I don't agree or disagree  
2 = I sort of agree  
1 = I agree very much

	I agree very much	I sort of agree	I don't agree or disagree	I sort of disagree	I disagree very much
1. The things used to deal with homework completion were fair.	1	2	3	4	5
2. The teacher was too hard (mean).	1	2	3	4	5
3. The things used to deal with homework completion might cause problems with my friends.	1	2	3	4	5
4. There are better ways to handle this homework completion.	1	2	3	4	5
5. The things used would be good for other children.	1	2	3	4	5
6. I like the things used to handle homework completion.	1	2	3	4	5
7. The things used for homework completion would help other children do better in school.	1	2	3	4	5

## APPENDIX G CONSENT/ASSENT FORMS



### Teacher Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, risks, and benefits of the study and how it will be conducted.

**Title of Study:** Using a Dependent Group Contingency to Improve Homework Completion and Accuracy in a General Education Classroom

**Purpose of the Study:** You are being asked to participate in a research study investigating the use of a classroom intervention to improve homework completion and accuracy. The method involves requiring you to collect data and follow the intervention procedures listed below that will be described to you in more detail once the study begins. This study is being conducted in four, 6<sup>th</sup> grade-mathematics classrooms in the West and East Baton Rouge School district. Frank M. Gresham, Ph.D. of the Department of Psychology at LSU is conducting this research and supervising his doctoral students that are involved in this study.

**Inclusion Criteria:** Three students from each 6<sup>th</sup> grade mathematics classroom will be selected based on the following criteria. They have a 60% homework grade, 70 or below academic mathematics grade, and a median score above the 20<sup>th</sup> percentile on Aimsweb® Mathematics Computation Probes.

**Exclusion Criteria:** Students who are not in the 6<sup>th</sup> grade and who do not have academic and homework scores that meet the eligibility requirements.

**Study Procedures:** You will be asked to conduct this intervention during your mathematics teaching sessions that include the selected students and their peers. Initially, you will recommend approximately three students in your classroom that are receiving an overall mathematics grade of 70 or below and have a homework grade of 60% or below. These students will be assessed to ensure they have the skill but lack the motivation to complete homework. The researcher will use your information and a curriculum-based measurement to make this decision. Upon receiving your students' assent and parental consent, you will begin collecting academic and homework data on the target students and average data on classroom homework performance. After sufficient data has been collected, you will then be asked to begin the intervention. You will receive training from the researcher on a dependent group contingency. The intervention will involve introducing the predetermined criteria to the classroom the date of the homework assignment, evaluating the performance of the selected students the date the homework assignment is due, rewarding students if criteria is met, and continuing to collect data on select students and the classroom. The intervention should take no more than 30 minutes, including all components. You will also be asked to fill out a 29-item questionnaire regarding your opinions of the intervention before and after the study. You will be observed throughout the study to ensure treatment fidelity and to answer any questions and concerns you have.

**Risks:** Risks are involved pertaining to the target students selected in this study. The target students may feel uncomfortable from social influence to complete the goal in order for the class to receive the reward; however, selected students' homework performance will be kept confidential from other students during the intervention to avoid any negative social influence. We will ensure that any methods we use will minimize the amount of risk. You, and your students, may feel uncomfortable during classroom observations, but researchers will use methods to minimize all possible risks or distractions and enter your classroom quietly.



**Benefits:** We expect the project to benefit you and your students by increasing their motivation to complete homework accurately and on time. Data will guide and contribute to research in understanding ways to improve homework performance, and it will also investigate additional positive outcomes associated with homework performance, such as academic achievement. After the study is over, the researcher will also be available to provide any additional services you request their help on.

**Financial Information:** There is no financial compensation for participation in this study.

**Confidentiality:** Throughout the data collection process, researchers will take the proper precautions to ensure all data collected will be kept confidential. We will use codes assigned for each target student, and only average classroom data will be collected. We will provide a folder to you to keep this data out of sight from all students and other teachers. To maintain confidentiality, we also ask that conversations pertaining to the target students will be held in private with the researcher and that you do not disclose any identifying information about the students' data.

**Right to Refuse:** At any time throughout the study, you have the right to no longer continue participating. Discontinuation will not affect your relationship with your school or LSU.

**Contact Information:** If you have any questions pertaining to the study, feel free to contact Sarah Metallo at 803-431-6492 or Frank Gresham, PhD., at 225-578-4663, Monday-Friday 8:30 a.m. – 5:00 p.m.



### Signatures

After reviewing the consent form, please sign and return to the researcher. If you have any questions, you may call Sarah Metallo at 803-431-6492 or Frank Gresham, PhD. at 225-578-4663, Monday-Friday 8:30 a.m. – 5:00 p.m. If you have questions regarding your child's rights or other concerns, please contact Dennis Landin, Chairman, Institutional Review Board, 225-578-8692, [irb@lsu.edu](mailto:irb@lsu.edu).

*The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators: Sarah Metallo or Frank Gresham, PhD. If I have questions about subjects' rights or other concerns, I can contact Dennis Landin, Chairmain, LSU Institutional Review Board. I agree to participate in this study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.*

### Please check one:

\_\_\_\_\_ YES, I will participate in this study and follow all the procedures.

\_\_\_\_\_ NO, I prefer not to participate in this study.

Date \_\_\_\_\_

Name (please print) \_\_\_\_\_

Signature \_\_\_\_\_

Phone Number \_\_\_\_\_

Email \_\_\_\_\_



Louisiana State University

## Parental Permission

Dear Parent or Guardian,

### Introduction

We are requesting your permission for your child to participate in a research study to develop a classroom intervention to increase students' homework completion and accuracy. Your child's teacher has identified homework performance as an area of concern in which your child may benefit from additional supports. The name of this project is *Using a Dependent Group Contingency to Improve Homework Completion and Accuracy in a General Education Classroom*. If you consent, doctoral students from the School Psychology Program at Louisiana State University (LSU) will work with your child and his/her teacher to provide him/her supports and evaluate their effectiveness. This study is being conducted at your child's school and other participating schools in the West and East Baton Rouge School districts. Frank M. Gresham, Ph.D. of the Department of Psychology at LSU is conducting this research and supervising his doctoral students that are involved in this study.

### Purpose of the Study

The purpose of this study is to investigate a classroom intervention using homework goals and rewards to help improve students' homework performance and academic achievement. Specifically, the researchers are examining whether providing a reward to the whole class based on the homework completion and accuracy of select students, including your child, results in improvements in homework performance for your child and his/her classroom. For example, the whole class can earn 5 minutes of free-time activities when the teacher evaluates the select students' homework performance, and they reached their goal of attempting to complete 100% of homework and at least 80% answered correct. Three students in each 6<sup>th</sup> grade mathematics classroom will be selected who have a 60% homework grade, 70 or below academic mathematics grade, and a median score above the 20<sup>th</sup> percentile on Aimsweb® Mathematics Computation Probes. Students must be eligible for all the criteria in order to participate in this study.

### Procedure

If you give permission for your child to participate, we will collect some information. First, your child will be asked to complete 4, 8-minute mathematics computations tests to evaluate their performance before the intervention begins. These tests are used to understand if your child already has the academic skill to reach the homework goal. This is a part of identifying if your child is eligible to participate in the study since our study will not be focused on teaching mathematics skills but instead focusing on homework skills. Second, additional data will be collected by the participating mathematics teacher pertaining to homework grades and overall academic grades. This additional data will be collected in the natural classroom setting by the teacher and the researcher and will not require any additional time to take the student out of the classroom. If it is determined that the classroom intervention is unlikely to benefit your child, your child's participation will end. If it is determined that the classroom intervention is likely to benefit your child, we will work with your child's teacher to apply the classroom intervention and



evaluate its effectiveness. The participating mathematics teacher will continue collecting data on homework performance, overall academic grades, and additional academic performance, such as unit tests, throughout the intervention and study. This data is necessary for understanding the effectiveness of the intervention to determine if the child's homework performance is improving. The study will continue for the remainder of the school semester, approximately ten weeks.

### **Risks**

There are minimal risks associated with participation in this study as all study activities are typical school practices. However, your child may feel somewhat uncomfortable or anxious when completing the mathematics tests. These initial assessments will require the student be taken out of the classroom briefly to complete tests in a quiet area. Although your child will not be identified as a study participant to the class, your child may still feel uncomfortable due to social influence to reach the homework goal and receive a reward. These risks will be minimized as the classroom peers will not be made aware that it is your child's grade being evaluated for the reward. Methods will be used to minimize all possible risks throughout the study.

### **Benefits**

Your child is likely to benefit from participation by directly improving behavior related to homework completion, homework accuracy, and academic achievement, as research shows homework performance can improve academic achievement. Your child's participation will contribute to the current research focused on improving homework performance in the classroom, which may benefit your child or other children in the future.

### **Privacy**

Researchers will have access to the student's data collected in the participating classroom. Your child will be assigned a code number, so his/her information will remain confidential. Results from this study may be published, but no identifying information will be included for publication. Data will be kept confidential unless release is required by law.

### **Right to Refuse**

Your child's participation is voluntary, and you may withdraw your child from the study at any time without penalty or risk of affecting the relationships you have with your child's school or with LSU. The supports made available to your child through this study will be provided at no charge to you or the school and will be coordinated with your child's classroom schedule.

### **Financial Information**

There is no financial compensation for participation in this study.



After reviewing the consent form, please sign and return the form to your child's teacher as soon as possible. Please be sure to include your contact information so that we may provide updates on your child's progress. We cannot start working with your child until we receive this form. If you have any questions, you may call researchers Sarah Metallo at 803-431-6492 or Frank Gresham, PhD. at 225-578-4663, Monday-Friday 8:30 a.m. – 5:00 p.m. If you have questions regarding your child's rights or other concerns, please contact Dennis Landin, Chairman, Institutional Review Board, 225-578-8692, [irb@lsu.edu](mailto:irb@lsu.edu).

### Signatures

*The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators: Sarah Metallo or Frank Gresham, PhD. If I have questions about subjects' rights or other concerns, I can contact Dennis Landin, Chairman, LSU Institutional Review Board, 225-578-8692. I agree to have my child participate in the study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.*

### Please check one:

\_\_\_\_\_ YES, I give my permission for my child to participate in this study.

\_\_\_\_\_ NO, I prefer that my child not participate in this study.

Date \_\_\_\_\_

Child's Name (please print) \_\_\_\_\_

Parent/Guardian Name (please print) \_\_\_\_\_

Parent/Guardian Signature (please print) \_\_\_\_\_

Phone Number \_\_\_\_\_

Email \_\_\_\_\_



I, \_\_\_\_\_, agree to be in a study to help learn more about an intervention to increase homework completion and accuracy. I will help by completing 4, 8-minute math tests and completing all my other school tasks normally assigned by my teacher. I will continue to do all my regular classroom activities. I know that my academic grades, test grades, and homework grades will be looked at to see if the intervention improves homework performance. This information and my participation may help find ways to improve students' homework. I understand that no personal information will be used in their research, and my classmates will not know that I am a participant in this study. I can decide to stop being in the study at any time without getting in trouble.

Child's Signature: \_\_\_\_\_ Age: \_\_\_\_\_ Date: \_\_\_\_\_

Witness\*: \_\_\_\_\_ Date: \_\_\_\_\_

\*The witness must be present for the assent process, not just the signature by the minor.

**APPENDIX H  
INSTITUTIONAL REVIEW BOARD APPROVAL**

ACTION ON EXEMPTION APPROVAL REQUEST



**TO:** Sarah Metallo  
Psychology

**FROM:** Dennis Landin  
Chair, Institutional Review Board

**DATE:** January 27, 2015

**RE:** IRB# E9142

**TITLE:** Using a Dependent Group Contingency to Increase Homework Completion and Accuracy in a General Education Classroom

Institutional Review Board  
Dr. Dennis Landin, Chair  
130 David Boyd Hall  
Baton Rouge, LA 70803  
P: 225.578.8692  
F: 225.578.5983  
[irb@lsu.edu](mailto:irb@lsu.edu) | [lsu.edu/irb](http://lsu.edu/irb)

**New Protocol/Modification/Continuation:** New Protocol

**Review Date:** 1/26/2015

**Approved**  **Disapproved**

**Approval Date:** 1/26/2015 **Approval Expiration Date:** 1/25/2018

**Exemption Category/Paragraph:** 1

**Signed Consent Waived?:** No

**Re-review frequency:** (three years unless otherwise stated)

**LSU Proposal Number (if applicable):** \_\_\_\_\_

**Protocol Matches Scope of Work in Grant proposal: (if applicable)** \_\_\_\_\_

**By:** Dennis Landin, Chairman 

**PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –  
Continuing approval is CONDITIONAL on:**

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects\*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.

**8. SPECIAL NOTE:**

*\*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>*

ACTION ON EXEMPTION APPROVAL REQUEST



Institutional Review Board  
Dr. Dennis Landin, Chair  
130 David Boyd Hall  
Baton Rouge, LA 70803  
P: 225.578.8692  
F: 225.578.5983  
[irb@lsu.edu](mailto:irb@lsu.edu) | [lsu.edu/irb](http://lsu.edu/irb)

TO: Sarah Metallo  
Psychology

FROM: Dennis Landin  
Chair, Institutional Review Board

DATE: May 5, 2015

RE: IRB# E9142

TITLE: Using a Dependent Group Contingency to Increase Homework Completion and Accuracy in a General Education Classroom

New Protocol/Modification/Continuation: Modification

Brief Modification Description: Administer rating scale to target and non-target students in the classroom

Review date: 5/5/2015

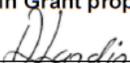
Approved X Disapproved \_\_\_\_\_

Approval Date: 5/5/2015 Approval Expiration Date: 1/25/2018

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable) \_\_\_\_\_

By: Dennis Landin, Chairman 

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –  
Continuing approval is **CONDITIONAL** on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects\*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE:**

*\*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>*

## VITA

Sarah Alexa Metallo, a native of South Carolina, studied psychology at the University of South Carolina. After receiving her bachelor's degree in 2012, she worked with the School Mental Health Team and the Center for Adolescent Research in Schools in Columbia, South Carolina. While working with at-risk youth in the school system, she became interested in pursuing a degree offering her experience with behavioral and academic interventions delivered in the school system. In 2013, she entered graduate school in the Department of Psychology at Louisiana State University. She expects to graduate with her master's degree in December 2015 and begin working on her doctorate degree.