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HOMEWORK PERFORMANCE IN MIDDLE AND HIGH SCHOOL STUDENTS: A COMPARISON OF THE EFFECTS OF GOAL SETTING WITH AND WITHOUT CONTINGENT REWARDS

A Dissertation

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

in

The Department of Psychology

by

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B.S., Oklahoma State University, 1990
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Abstract

Participation in homework has important academic benefits for students. In addition, parents and teachers expect that completion of homework assignments will help students develop independent study skills. Unfortunately, homework problems are common and a significant number of middle school and high school students fail to complete many homework assignments.

Goal setting is a procedure that has been applied to homework and targets academic productivity directly. In this study, the efficacy of a self-managed goal setting procedure for improving the homework performance of middle and high school students was evaluated. A combination multiple baseline and alternating treatments design was utilized to compare the effects of student-managed goal setting with and without contingent rewards. Although neither intervention was clearly superior to the other, significant improvements in students' on-task rates and/or academic response rates were seen during both conditions. Also, both interventions were rated favorably by students and parents. However, neither intervention produced stable improvements in students' homework accuracy.
Introduction

Completion of homework assignments is an activity with many potential benefits for students. Empirical studies generally have supported the capacity of homework to raise academic achievement (Keith, 1982; Leone & Richards, 1989; Paschal, Weinstein, & Walberg, 1984). Furthermore, parents and teachers expect that participating in homework will develop student initiative, instill responsible work habits, and build independent study skills (Coulter, 1980; Morison & Brady, 1994).

Unfortunately, homework completion is associated with problems for many students. Conventional wisdom often encourages adults to accept students' decisions about homework participation and allow the consequences of noncompletion to occur without interference (Deskin & Stechler, 1995; Dodson, 1974; Rosemond, 1989). While this approach may reduce conflict over homework, its potential for helping students develop the skills necessary to experience the benefits of homework is limited.

Historically, behavioral researchers have demonstrated an exceptional capability to develop empirically derived interventions and treatment programs for common childhood problems such as noncompliance, sibling aggression, temper tantrums, oppositionality, and social skills deficits (Houten, Axelrod, Bailey, Favell,
Homework noncompletion is another common problem that might be addressed effectively by a behavioral intervention. A behavioral approach seems particularly applicable to homework difficulties because successful intervention usually requires not only eliminating unacceptable behaviors but also replacing them with appropriate behaviors that lead to desired outcomes (Sulzer-Azaroff & Mayer, 1977).

Goal setting is one behavioral intervention with demonstrated ability to improve homework productivity and reduce associated behavior problems (Kahle & Kelley, 1994; Miller & Kelley, 1994). However, previous studies using goal setting with homework have employed students in lower elementary grades and relied on parents to execute many intervention components. The current study targeted older students who exhibited homework problems and utilized a goal setting intervention in which students primarily were responsible for treatment implementation. In the review that follows a summary of the literature on the benefits and problems associated with homework participation is provided. Also, the literature on homework interventions is examined and research supporting the various components of the treatment package investigated in this study is described.
Benefits of Homework Participation

Potential benefits of homework participation include improved academic achievement, increased academic engaged time, and promotion of independent study skills. Unfortunately, empirical studies investigating the benefits of homework have been rare (Miller & Kelley, 1991). In addition, methodological limitations are evident in many existing homework studies. For example, nonexperimental methods often have been used and researchers often have failed to separate the effects of homework from other variables. Despite these limitations, support for the expectation that homework participation has many potential benefits for students can be drawn from several research domains.

Homework and Academic Achievement. Reviews of empirical research conclude that homework is beneficial to learning (Keith, Reimers, Fehrman, Pottebaum, & Aubey, 1986; Paschal et al., 1984), particularly for older students (Keith & Page, 1985). Also, results of two large sample studies suggest that time spent on homework is positively related to grades. Keith (1982) examined the relation between homework time and grades using 20,364 high school seniors from 36 schools. At all ability levels, amount of time spent on homework was found to be an important determinant of students' grades even after
controlling for aptitude, family background, race, and students' courses of study. Within the proposed model, homework had an effect on grades second only to that of intellectual ability.

In another study, Leone and Richards (1989) divided 401 early adolescent students into three groups based on grade point average (GPA). Students in the highest GPA group were found to spend significantly more time doing homework than students in the middle and low groups.

In an experimental study examining the academic benefits of homework participation, Maertens and Johnston (1972) assigned 400 elementary school students to one of the following conditions: no homework, homework with immediate feedback, or homework with delayed feedback. Although students in the two experimental groups did not differ, both performed significantly better than the no homework group on a test of problem solving and computational skills.

Many experimental studies that fail to support an effect of increased homework leading to improved academic performance compared a student group that received assignments to one that did not. An important limitation of these studies is that researchers often failed to control for the possibility that assignments were made but not completed (Goldstein, 1960). For example, Harris and
Sherman (1974) found that simply assigning more homework in mathematics and social studies had little impact on students' classroom performance. However, when consequences for accurate homework completion were implemented, classroom performance improved.

Further support for the relation of homework to achievement can be taken from research on academic engaged time. Research findings consistently suggest a positive association between the amount of time students spend making an active, academic responses and subsequent achievement (Baer & Bushell, 1981; Carroll, 1963; Leach & Dolan, 1985). As an activity that provides students with additional opportunities to respond to academic tasks, homework may extend students' engaged time and thus enhance achievement (Miller & Kelley, 1991).

Homework and Study Skills. The relation between homework participation and development of good study skills has been difficult to describe precisely because researchers have not attempted to measure study skills directly. Instead, grades and academic achievement, which are assumed to be by-products of good study skills and work habits, typically have been the outcome variables of interest. Nevertheless, in surveys of parents, teachers, and even students, development of independent study skills is recognized as one of the primary purposes of
participating in homework (Coulter, 1980; McDermott, Goldman, & Varenne, 1984). Furthermore, homework is identified as an activity that may contribute to the general development of highly valued qualities like independence and self-reliance, (Garner, 1991; Kuepper, 1990).

There is some evidence that, as students' educations progress, they begin to take more responsibility for homework. In an examination of the homework behavior of 401 sixth through ninth grade students, Leone and Richards (1989) noted a developmental trend toward spending more time working on homework alone in the higher grades. For adolescents in upper grades, homework typically is viewed as the student's responsibility, and it is expected that parents and teachers will provide minimal assistance with organizing and completing assignments (Coulter, 1980; Morison & Brady, 1994; Warton, 1993).

In summary, research investigating the benefits of homework is not without limitations. Methodological problems are evident in many studies. Also, the role of homework participation in study skill development is not well understood. Despite these problems, evidence for the potential of homework to improve academic achievement is persuading. Although homework participation seems to offer important benefits, the literature on homework
problems indicates that the consequences of assigning homework are not exclusively positive.

**Homework Problems**

Participating in homework generally has a favorable effect on students' achievement. Yet, research findings suggest the homework process produces many problems for parents, students, and teachers. To examine the difficulties teachers encounter when assigning homework, Salend and Schliff (1989) interviewed 88 educators of learning disabled students. Only 6% of those questioned reported no problems with assigning homework. Teachers' most common complaints were that students failed to complete assignments or completed them incorrectly. In a random survey of Illinois teachers, more than 3,000 of those who responded reported that at least half of their students completed less than 80% of assigned homework (Murphy & Decker, 1990).

Homework problems do not appear to be confined to school. Anesko and colleagues found that many parents of elementary-school aged students reported their children misbehave during homework completion (Anesko, Schoiock, Ramirez, & Levine, 1987). Parent-reported problems included denial about having a homework assignment, noncompliance with requests to do homework,
distractibility from task, parent/child arguments, and slow or careless work production.

Specific behavior problems exhibited by middle and high school students during homework completion have not been examined specifically. Instead researchers have focused on older students' attitudes and participation rates. Leone and Richards (1989) asked adolescents to report their subjective experiences during homework, classwork, and leisure activities. Students reported feeling relatively neutral when doing classwork, but comparatively more negative when doing homework. Participants indicated they were more unhappy, lethargic, and disinterested during homework than during other activities.

Cross-cultural examinations of students' attitudes toward homework indicate that U.S. children are much more negative about homework than Asian children (Chen & Stevenson, 1989). Furthermore, older U.S. children, have been found to dislike homework more than younger U.S. children, but a similar deterioration in attitude was not found with Asian students (Stevenson, Lee, & Stigler, 1986). Finally, a significant minority of U.S. adolescents apparently fail to complete assignments altogether. For example, one study tracked high school students' English homework completion for 10 days. On the
average, one fourth of the 50 students failed to complete homework each day (Schellenberg, Skok, McLaughlin, 1991). Prior to a homework intervention, Harris and Sherman (1974) found that only about half of 52 sixth graders completed homework assignments in math and social studies. Keith (1982) used a large, nationally representative sample of high school seniors to determine students' self-reported rates of homework completion. He found that 4% of seniors reported that they did not ever complete any assigned homework.

Thus, the specific homework problems of older students are less well understood than those of younger children. However, older students' negative attitudes and failure to complete assignments suggest that difficulties are encountered in this group. Furthermore, when students fail to attempt assignments, any potential effect of homework on academic achievement or study skill development is lost.

**Homework Interventions**

Despite the prevalence of homework problems, few researchers have evaluated effective, socially valid methods of increasing homework quality, efficiency, and participation (Cooper, 1989; Foyle & Bailey, 1988; Miller & Kelley, 1991). Typically, interventions have relied on teachers or parents to implement many or all treatment
components. Although most studies have attempted to alter homework behavior by manipulating consequences for participation, a few have targeted student behavior during homework completion.

**Consequences for Homework Participation.** Generally, research utilizing consequences for homework participation has been based in the classroom and researchers have demonstrated that teachers’ delivery of contingent rewards can increase homework completion (Cantrell, Cantrell, Huddleston, and Woolridge 1969; Schellenber, et al., 1991) and improve homework quality (Harris & Sherman, 1974). For example, Cantrell et al. (1969) used contingent rewards to increase completion of classwork and homework. A student who exhibited low academic productivity earned points for classwork and homework completion. Points were exchanged for desired reinforcers. Six weeks after implementation, the participant’s grades had improved considerably in three subjects.

In another study, a combination multiple baseline and ABAB replication design was used with 2 groups of 12th grade students to evaluate the effects of contingent free time on English homework participation rates (Schellenberg, et al., 1991). After a baseline period in which teachers made assignments as usual, an intervention phase was implemented in which students earned a 3-minute
early dismissal if homework was completed. During the free-time phases, number of students completing homework increased significantly. The study’s strengths include the minimal teacher time needed to implement the program and positive responses from students about the procedure. Unfortunately, assignment quality and impact on grades was not reported. Also, even during the follow-up intervention phase, between 20 and 25% of students from both groups failed to attempt assignments on any given day. This finding suggests that for some students, 3 minutes of free-time is an insufficient incentive for obtaining homework completion. It also was not known whether the particular students not attempting homework varied from day to day or if there was a core group of "chronic noncompleters" who rarely or never attempted assignments.

A study examining the effects of consequences for accurate homework completion was conducted by Harris and Sherman (1974) using a multiple-treatments design. When daily assignments were given without consequences for participation, students rarely completed assignments accurately and classroom performance was only slightly better than when no homework was assigned. When a reward (10- to 15-minute early dismissal from school) was provided for accurately completed homework, participation
rates as well as accuracy increased significantly. In the final phase, a response cost condition was added. Students who had not completed at least 80% of their homework correctly were required to stay in from recess. Interestingly, the percent of students completing assignments at home increased only slightly during this phase. Furthermore, even when rewards for accurate completion and consequences for noncompletion were implemented simultaneously, approximately 20% of students failed to attempt assignments on any given day.

Parent delivery of consequences for adequate homework performance also has increased the quantity and/or quality of students’ participation (Dougherty & Dougherty, 1977; Goldberg, Merbaum, Even, Getz, & Safir, 1981; Kirigin, Phillips, Fixsen, & Wolf, 1972). Typically, a daily report card from teachers has been utilized to provide parents with information about homework performance. For example, Kirigin et al., (1972) required two delinquent boys to record homework assignments on an assignment card. Teachers used the card to inform parents whether or not homework was completed on the previous day. When students were rewarded at home for adequate participation, both boys’ homework completion rates increased from 50 to 100%.

A parent-implemented response-cost procedure was used to target low rates of reading assignment participation in
a 10-year-old girl. Parents monitored reading time. For each minute less than 30 that the girl spent working on her reading assignment at home, she was required to go to bed 1 minute early. Reading time increased from a mean of 11.5 minutes per day at baseline to 30 minutes per day shortly after the program was implemented (Hall, Cristler, Cranston, & Tucker, 1970).

Thus, when examining the effects of consequences on increasing appropriate homework behavior, researchers generally reward improved participation and/or homework quality. Response cost procedures have been utilized less frequently and often have been used with very small samples. In one of the most rigorous studies of response cost, Harris and Sherman (1974) failed to find a significant increase in homework accuracy or participation above that obtained with rewards alone.

Although the favorable results of studies based on contingent rewards are compelling, rewarding homework participation is controversial (Morison & Brady, 1994). A concern voiced by several prominent researchers is that extrinsic rewards for homework participation will undermine students' tendency to view academic learning as important and intrinsically rewarding (Cooper, 1989, Morison & Brady, 1994). For example, researchers worry that an overjustification effect may occur after rewards
are removed (Lepper, Greene, & Nisbett, 1973). That is, rewards may be associated with a performance improvement that drops below initial baseline levels after rewards are withdrawn.

Several findings in the research on overjustification are pertinent when considering whether or not to reward homework participation. Overjustification effects have been found most consistently when students are rewarded for an activity in which they already enjoyed participating (Newman & Layton, 1984). When rewards are given for engaging in previously avoided activities, such as onerous or boring tasks, rewards may increase intrinsic motivation (Calder and Staw, 1975).

In summarizing the role of positive consequences in facilitating homework participation, providing rewards to students who already complete homework probably is not advantageous. However, researchers recognize the need to use rewards initially to establish study habits in students who resist participation (Brophy, 1987; Cantor & Hausner, 1987; Morison & Brady, 1994). As with other areas where behavior modification has been used to develop important behaviors that previously were avoided, rewards are seen as a necessary incentive to initiate behavior change.
One limitation of interventions based on positive reinforcement is that they target global increases in homework participation, but are not directed at improving the manner in which children approach and complete their assignments (Miller & Kelley, 1991; Olympia, Sheridan, Jenson, & Andrews, 1994). For some students, simply increasing the positive consequences for completing assignments appears to be an insufficient intervention. For example, in several studies which relied exclusively on rewards, a significant minority of students continued to miss many assignments (i.e. Harris & Sherman, 1974; Stevenson et al., 1986). One possible explanation is that selected rewards were not sufficient to override competing reinforcers which were available when students chose not to complete homework. Another possibility is that some students lacked skills or exhibited behaviors that interfered with assignment completion. The section that follows examines more programmatic interventions which may incorporate rewards, but also target specific behaviors that promote or interfere with adequate homework performance.

Treatments Targeting the Homework Completion Process.
Several researchers have attempted to improve homework performance by targeting child behavior during assignment completion. The primary goal of these programs typically
has been to reduce negative child behavior during homework. A secondary objective has been to promote appropriate behaviors which, it is hoped, will lead to homework completion. Anesko and O’Leary (1982) evaluated a didactic training program designed to help parents manage the homework problems of their elementary-school aged students. Training was conducted in three sessions wherein behavioral techniques described in a parent manual, Homework Hassles: How to Handle Them (Anesko & O’Leary, 1982), were discussed and practiced. Parents were taught to identify, operationally define, and monitor target behaviors. Also, parents were given information on establishing a homework routine, attending to and praising appropriate behavior, and using contingency contracting. Compared to wait-list parents, the participating parents reported significantly fewer homework difficulties at post-treatment. Furthermore, positive changes were maintained at a six-month follow-up.

Despite positive features, some methodological shortcomings of the study were evident. For example, when the control group subsequently was treated, no significant improvements were reported. However, the authors suggest this finding may have been due to control families receiving treatment during the last month of the school year. Also, although on-task rates were coded during a
pre- and post-treatment laboratory observation of homework completion, no significant post-treatment improvements were found.

The development of parent-training interventions directed specifically at the homework completion process is important and promising. However, an important limitation of some programs is the failure to target increased productivity during assignment completion. For several reasons, direct efforts to improve productivity might result in more effective and parsimonious methods of managing homework problems. First, targeting productivity could provide a reduction in behavior problems simply because many of the problems associated with homework are incompatible with response production. For example, it is not possible to be productive and off-task (Klein, 1979). Furthermore, because increases in productivity will not occur unless students make a higher rate of active responses, targeting productivity may increase the likelihood that homework participation will impact positively on achievement (Baer & Bushell, 1981; Carroll, 1963, Leach & Dolan, 1985). Thus, targeting homework productivity directly may maximize the potential for positive changes in achievement as well as simultaneous decreases in behavior problems. Goal setting, a procedure that frequently has been used to increase productivity in
other settings (Hanel & Martin, 1980; Latham & Yukl, 1975), will be described below and its use with homework will be reviewed.

Goal Setting and Its Use with Homework Problems. Goal setting involves knowingly establishing an objective that serves as the aim of one’s actions (Schunk, 1984). Extensive research on goal setting has revealed that it is applicable to a variety of tasks, settings, and populations (Latham & Yukl, 1975). When applied to academic tasks, goal setting has the ability to improve task engagement and function as a powerful antecedent to desired behavior (Bandura, 1977; O’Leary & Dubey, 1979; Schunk, 1985).

Studies examining children’s use of goal setting during academic tasks have revealed several properties related to goal setting’s effectiveness. First, goals that incorporate specific performance standards are more likely to lead to higher achievement than general goals, or no goals (Locke, Shaw, Saari, & Latham, 1981; Morgan, 1985). Also, assuming an individual has sufficient skills to accomplish the goal, there is evidence that stringent goals result in better performance than lenient goals, or no goals (Brownell, Colletti, Ersner-Hershfield, Hershfield, & Wilson, 1977; Locke, et al., 1981; Schunk, 1983). Additionally, proximal goals, which can be
achieved rather quickly, result in greater attainment motivation and higher performance than no goals, or goals extending farther into the future (Bandura & Schunk 1981; Schunk & Gaa, 1981). Finally, the addition of performance-contingent rewards enhances the benefits of goal setting (Schunk, 1984).

A homework intervention which incorporated goal setting and performance rewards was evaluated in two studies. Miller and Kelley (1993) examined a homework intervention that combined goal setting with contingency contracting using a withdrawal design (ABAB). Dependent variables were parent-recorded homework accuracy, on-task behavior measured during daily home observations of homework, and parent ratings on the Homework Problem Checklist (Anesko et al., 1987). The treatment program consisted of training the parents of 4 elementary-school aged students to help their children divide homework assignments into small, specific goals that were challenging but attainable. Additionally, parents were taught to give minimal assistance during goal completion, assist with evaluation of goal achievement, and provide social reinforcement when goals were achieved. Finally, contracts that specified daily and weekly rewards for satisfactory goal attainment were negotiated. The intervention significantly improved all subjects' accuracy
rates. However, on-task rates improved significantly for only 2 subjects and parent-reported scores on a measure of homework behavior problems did not reflect significant improvement.

In another study, Kahle and Kelley (1994) compared the goal setting procedure described above to the parent training program developed by Anesko and O'Leary (1982) which was described earlier. Participants were second, third, and fourth grade students with significant homework problems as measured by the Homework Problem Checklist (HPC; Anesko et al., 1987). Both interventions resulted in significant desirable changes in parent-reported homework behavior problems. However, only goal setting produced a significant increase in students' rates of correct homework answers per minute.

Thus, goal setting, the only empirically evaluated intervention which targets improved productivity directly, holds promise as an effective and efficient method of addressing homework problems. However, some limitations of the program should be mentioned. First, an important question not addressed by either goal setting study is whether improvements could be achieved in the absence of performance-contingent rewards. Also, as with many of the more rigorously validated homework interventions, goal setting has been aimed at younger children and may
incorporate a degree of parent involvement that is not acceptable for adolescent students.

**Self-management and Its Use with Homework.** When evaluating a homework intervention, considering the amount of adult involvement required is important because many parents and teachers feel promoting independent study skills is a primary purpose of homework (Coulter, 1980; Goldstein, 1960; Morison & Brady, 1994). Particularly for older students, interventions that incorporate a high degree of parent involvement may be inappropriate because they could interfere with the development of self-sufficient study skills.

Self-management, the application of behavior principles to one's own behavior, represents an alternative to procedures that are largely managed by a teacher, parent, or other adult (Gross & Wojnilower, 1984; Kelley & Callahan, 1982). One way of modifying a homework intervention to increase its suitability for older students might be to include more self-management components. In their review of the literature, O'Leary & Dubey (1979) note that self-management interventions may be advantageous because children may learn to behave effectively in the absence of adult supervision and because procedures may result in more durable changes than relying solely on external controls. For these reasons,
interventions incorporating self-management seem particularly applicable to homework.

Surprisingly, only a few studies have attempted to use a primarily self-managed intervention with homework problems. In one study, Glomb and West (1990) trained 2 adolescents with learning and behavior problems to use self-instructional procedures when completing creative-writing homework assignments. Participants were referred by their teacher because they did not complete homework or independent class assignments. Treatment was conducted during three training sessions. First, students were taught to identify the antecedents and consequences of assignment completion. Next, students were trained to use self-instruction to prompt themselves to record assignments and due dates accurately, divide assignments into work tasks, and schedule a time to complete each task. Finally, students were trained to evaluate the neatness, accuracy, and completeness of their work.

For both students, the procedure was associated with favorable changes in the neatness, accuracy, and completeness of writing homework. However, generalizability of the study is limited due to the small sample size. Also, social validity is questionable as creative-writing assignments were generated by the
experimenters and were not actual assignments from classroom teachers.

In another study, a combination of self-management and cooperative learning procedures was used to target completion and accuracy of daily mathematics homework (Olympia et al., 1994). A single-subject reversal (ABAB) design yoked across parallel conditions was utilized. Sixth-grade students who had homework difficulties were assigned to one of two teams. During the intervention phase, team members assumed responsibility for determining the number of assignments completed, scoring assignments and calculating accuracy rates for each team members, and deciding whether students' performance met or exceeded individual and team goals. Team-points were awarded for completing assignments and meeting or exceeding accuracy goals. A team-win was determined if overall team-points met or exceeded the team goal for the day. Also, team members who met or exceeded daily accuracy goals earned raffle tickets for prize-drawings held twice a week. For one team, a teacher-determined goal of 90% accuracy was the criterion for earning team-points and tickets during the intervention phases. For the other team, students selected their own accuracy criterion of 80%, 90%, or 100%.
Participating students demonstrated significant gains on standardized measures of mathematics achievement and curriculum-based measures of classroom performance. Compared to baseline, homework participation rates during the intervention phases increased significantly for students in both groups. However, students using self-selected goals made slightly greater improvements in assignment completion, although most students in this condition tended to select the easiest accuracy goal (i.e. 80%). Throughout the study, students' homework accuracy varied greatly. Consistent improvements in accuracy rates were not seen in either group.

An important strength of the study is the inclusion of standardized and curriculum-based measures of mathematics skills as an outcome measure. However, the effects of homework on skill acquisition cannot be separated from other factors such as classwork participation. Another strength of the study is its comparison of teacher-determined versus student-determined goals. The finding that both methods were associated with equivalent homework participation supports the potential efficacy of using student-determined homework goals in other settings.

In describing limitations of study, the authors note that the treatment scope may have been inadequate for some
participants because the program did not address the manner in which students completed assignment. Also, it is not possible to determine which components of the treatment program were critical for behavior change.

Additional clues for incorporating self-management into homework interventions can be taken from studies utilizing self-management procedures to improve classwork participation (Brownell et al., 1977; Harris, 1986; Hughes & Boyle, 1991; Humphrey, Karoly, Kirschenbaum, 1978; Shapiro & Klein, 1980). In one of the few studies to focus on older students, Kelley and Stokes (1984) used a student goal setting procedure with 8 economically disadvantaged high school students. After a period of student-teacher contracting of weekly work requirements, students were allowed to determine their own work goals without teacher feedback. During both phases, pay previously given for school attendance was made contingent upon contract fulfillment. The intervention resulted in significant improvements in academic productivity that were maintained even after students began determining their own work goals.

An important strength of the Kelley and Stokes (1984) study is the selection of academic productivity as the primary target of intervention. Furthermore, the transition to student-determined classwork goals was
effective and could easily be extended to goal setting during homework. However, the student goal setting procedure was consistently paired with contingent rewards for goal achievement. Thus, the ability of goal setting alone to improve academic productivity is not known.

Conclusion and Statement of Purpose

Participation in homework may have a positive impact on academic achievement; however, for many students, assignment completion does not occur or is associated with problems. Interventions aimed at addressing homework problems are conducted rarely and typically focus on elementary-school aged students. Also, homework intervention studies often have been methodologically limited and target behaviors that are indirectly related to academic productivity.

Homework interventions which target improved productivity during homework completion may be advantageous for several reasons. First, increases in academic responses are associated with improved academic achievement. Also, response production is incompatible with many homework behavior problems. Finally, interventions which promote more efficient work completion should reduce the amount of time needed to complete assignments and leave more time for other activities.
Goal setting, a procedure that has been applied to homework, targets academic productivity directly. The ability of parent-supervised goal setting combined with contingent rewards to increase on-task rates and homework productivity in elementary students has been demonstrated (Miller & Kelley, 1993; Kahle & Kelley, 1994). However, existing goal setting interventions may not adequately facilitate the homework objective of promoting independent study in older students unless modifications in adult involvement can be achieved.

Students' ability to increase homework participation and classroom productivity by rewarding achievement of self-determined goals has been demonstrated (Kelley & Stokes, 1984; Olympia et al., 1994). Allowing older students to determine goals and goal achievement could be extended easily to goal setting during homework completion and potentially would reduce the amount of parent involvement required.

This study attempted to address several limitations in the homework intervention literature by evaluating the efficacy of a self-managed goal setting procedure aimed at improving the homework performance of secondary students. Middle school and high school students were selected because very few homework interventions have been investigated with this age group. Also, evaluating a
program that incorporated self-management components seemed particularly appropriate with this age group because students had reached the threshold at which parents and teachers begin to place greater emphasis on the value of completing assignments independently (Morison & Brady, 1994).

The efficacy of student-determined goal setting on homework performance was evaluated. Specifically, the effects of the intervention on academic response rate, on-task rates, and homework accuracy was assessed. To evaluate whether contingent rewards were necessary for goal setting to be effective, a condition in which goal setting was used in conjunction with rewards for adequate goal achievement was compared to a condition in which goal setting was used and rewards were provided noncontingently. It was hypothesized that students' use of goal setting would be associated with significant improvements in on-task rates and academic response rates. Furthermore, it was expected that the condition combining goal setting and contingent rewards would produce the greatest improvements in homework performance.
Method

Subjects

Seven students in middle school or their first year of high school (sixth, seventh, eighth, or ninth grade) served as subjects. Participants were solicited through two private schools (a parochial preparatory school and a university laboratory school). First, school administrators were contacted and the purpose of the study was described. Next, parents were notified about the availability of the study and appropriate participants were recruited (See Appendix A).

In order to qualify for participation, students were required to meet the following criteria: 1) the student received homework assignments in most classes at least four evenings a week, 2) significant problems with homework completion were reported by the student's parent, 3) parent-reported total score on the Homework Problem Checklist (Anesko et al., 1983) was 20 or greater, and 4) the student scored at or above the 25th percentile in reading and math on a standardized test of academic achievement administered within 6 months of the beginning of participation. These selection criteria helped insure that only participants who had difficulty completing their homework despite adequate academic skills were included in the study. All participants were of middle to upper
middle socioeconomic status (Hollingshead, 1975). One participant was in the custody of a maternal aunt and uncle. All other participants lived with both parents. Two participants had been diagnosed previously with Attention-deficit Hyperactivity Disorder. Unless otherwise note, parent-reported scores on the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) did not reflect clinically significant problems. Three participants withdrew from the study during the initial baseline phase because competing activities prevented them from attending an adequate number of homework sessions.

**Daniel.** Daniel, an 11-year-old white male, was in sixth grade. His failure to complete homework assignments was contributing to failing grades in several classes. Also, family conflict over homework was reported.

**Stacey.** Stacey was a 14-year-old white female who was in the ninth grade. She put off doing homework, had difficulty using her study time efficiently, and often felt frustrated and overwhelmed by assignments.

**Amy.** Amy was an 11-year-old African American female in sixth grade. Amy dawdled and procrastinated during homework time and typically took several hours to complete assignments. Considerable family conflict over homework was reported by Amy's parents.
Marc. Marc was an 11-year-old white male in sixth grade who completed very little of his assigned homework. Noncompletion of homework was contributing to failing grades in several classes. Due to frequent family conflict over homework, Marc’s parents had attempted to implement several strategies to address homework problems, but had experienced little success. Parent ratings on the CBCL indicated that Marc exhibited clinically significant levels of inattentiveness and aggressive behavior.

Al. Al was a 14-year-old white male in eighth grade. Al typically completed assignments in a careless manner and responded poorly when asked to correct homework. Also, Al’s grades were negatively affected by his failure to devote sufficient time to independent study.

Cindy. Cindy, a 12-year-old hispanic female, was in sixth grade. Cindy had difficulty working independently and completing homework in an efficient manner. Also, without adult supervision, she reportedly put minimal effort into her assignments.

Stephanie. Stephanie was a 12-year-old white female in seventh grade. Stephanie put off doing homework and then rushed through assignments and made many careless errors. Also, her failure to complete some assignments was negatively affecting her grades in several classes.
Setting

After-school homework sessions were held each school day in a quiet room at students’ schools and lasted 60 minutes. Desks or tables were available as work areas for students. All homework sessions were monitored by undergraduate research assistants blind to the purposes of the study. To make the setting more analogous to the circumstances under which students typically complete homework, distractor materials (e.g. magazines, games, puzzle books, playing cards, stationary, markers, construction paper, toys) were available to students. Distractor materials were placed in a box at the back of the homework room and materials were rotated once a week to maintain their salience. Students were told that these materials were available for their enjoyment whenever they felt they needed a break from their homework.

Homework session rules were displayed on a poster (see Appendix B). Students were required to be in the homework room at the designated starting and ending time. If students needed to leave the room for any reason during the session, they were required to check in and out with the monitor and were told they should not be gone more than 5 minutes. Research assistants were given written guidelines for monitoring homework sessions and enforcing rules (see Appendix C).
To ensure that monitors did not assume the role of tutors, monitors were allowed to help each student with homework no more than three times during each session. Help was defined as any response by a monitor which assisted a student in completion of an assignment.

**Design**

A combination multiple baseline and alternating treatments design was utilized to compare the effects of student-managed goal setting with and without contingent rewards for goal achievement. After a baseline period of stable responding was established, the treatment phase was begun. During the treatment phase, the two interventions, goal setting and goal setting plus contingent rewards, were rapidly alternated in random order across days. To increase the strength of the experimental demonstration, a return-to-baseline phase was included and followed by a final treatment phases in which interventions again were alternated. Data evaluation consisted of visual inspection of graphic presentations of the primary dependent variables for each subject.

**Dependent Measures**

Primary dependent measures, which consisted of percent on-task, accuracy, and academic response rate, were collected during after-school homework sessions. Additional outcome measures were students’ grade point
averages in academic courses in the quarterly grading periods before and during participation and parent and student ratings on the Homework Problem Checklist.

At the beginning and end of their child’s participation, parents completed the Homework Problem Checklist (HPC; Anesko et al., 1987). The HPC is a 20-item checklist assessing parents’ perceptions of homework problems. Items are rated as occurring never, at times, often, or very often in the previous 2 weeks and receive a corresponding score of 0, 1, 2, or 3-points. Scores are derived by summing item ratings and range from 0 to a maximum of 60. The HPC has an overall mean of 10.5 and a standard deviation of 7.91 and is internally consistent (alpha = .91), content valid, and sensitive to treatment effects (Anesko et al., 1987).

At the completion of their child’s participation, parents completed a version of the Consumer Satisfaction Questionnaire (CSQ; Forehand & McMahon, 1981) adapted for this study (see Appendix D). The CSQ is an unstandardized measure of consumer satisfaction that assesses parents’ attitudes regarding overall satisfaction with the treatment program, teaching methods, and treatment procedures. Parents rated their satisfaction with each aspect of their child’s participation (i.e. attending homework sessions, using the goal setting intervention,
and using the goal setting plus rewards intervention). Scores were derived by summing ratings for each aspect of participation separately, with higher scores associated with greater satisfaction.

A version of the HPC designed to assess students’ perceptions of homework problems (see Appendix E) and a version of the CSQ designed to assess students’ perceptions of treatment efficacy (see Appendix F) were developed for this study. The format and administration timing of each these questionnaires was consistent with the parent versions. Both questionnaires were created for the current study, thus no additional psychometric information is available.

Data Collection Procedures

Data collection for primary dependent variables took place during the after-school homework sessions. Undergraduate research assistants recorded students’ on- and off-task behavior, evaluated assignments for accuracy, and determined academic response rate. Observer training consisted of provision of written materials (see Appendix G), discussion, role plays, practice sessions, practice assignments, and performance feedback. Observers were required to demonstrate overall agreement of at least 80% before being allowed to evaluate assignments or observe homework sessions. In order to maintain continuity,
primary observers did not rotate between schools. However, research assistants who performed reliability checks were rotated weekly. Throughout the study, research assistants met weekly to review definitions and procedures in order to prevent observer drift. Data collection procedures described below were used consistently throughout the study.

*Percent of Intervals On-task.* During each homework session, student behavior was recorded using a modified version of the Homework Interaction Coding System-Revised (HICS-R) which was developed by Anesko and O’Leary (1982) to record child behavior and parent/child interactions during homework. Only on- and off-task behavior was recorded as other behaviors included in the code were not applicable because parents were not present at homework sessions. Behavioral recording began approximately 5 minutes after the homework session started and concluded approximately 5 minutes before the session ended. Observation intervals were 10 seconds followed by 5 seconds for recording. Students were recorded as on-task if, for the entire 10 second interval, their head and/or eyes were oriented toward materials (e.g. text book, notebook, workbook, worksheet, stopwatch) that were positioned appropriately (e.g. text is open, worksheet is face up) for working. Requiring students to be oriented
toward materials for the entire interval represents a modification from the HICS-R which allowed students to look away from materials for up to 1/3 of the interval and still be recorded as on-task. The more stringent criteria were implemented to provide a more conservative estimate of on-task rates. Participants also were recorded as on-task if their head and/or eyes were oriented toward a monitor who was speaking to them or listening to them. During the intervention phase, students were recorded as on-task if their head and/or eyes were oriented toward materials necessary to participate in goal setting (e.g. goal setting worksheet, stopwatch).

If students did not meet the on-task criteria for the entire interval, off-task was recorded. Off-task coding was broken down into off-task/absent and off-task/distracted. Off-task/distracted was recorded when students were in the homework room, but did not meet the on-task criteria. When students were outside of the homework room for the entire interval, off-task/absent was recorded.

During observations, students were divided into two groups with up to three students in each group. Recording of on- and off-task behavior alternated between the two groups each minute. Thus, for each participant, approximately 90 intervals of behavior were recorded.
during each session. Percent of intervals on-task was calculated by dividing number of intervals on-task by number of intervals on-task plus number of intervals off-task/distracted and multiplying by 100.

**Accuracy.** At the end of the homework session, all written work completed by students and its accompanying instructions was photocopied by monitors. The date and students' initials were recorded at the top of each page. Photocopies of homework were reviewed by a research assistant and each academic response was enclosed in parentheses. An academic response was defined as an answer, or part of an answer, that could be evaluated as correct or incorrect, independent of other answers.

Research assistants evaluated each academic response as correct or incorrect by using a red pen to mark incorrect responses with an "X". Research assistants were instructed to utilize resources provided by the experimenter (e.g. grade level text books, calculator, grammar handbook, dictionary, encyclopedias) if they are unsure of the accuracy of a student's response. When an assignment required a student to produce a written passage that was creative or opinion-based, one correct response was recorded for each sentence that included at least one subject and one predicate.
Each assignment was scored separately and accuracy was calculated by dividing number of unmarked responses by number marked plus number unmarked and multiplying by 100. Average accuracy was calculated by summing percent correct for all assignments on a given day and dividing by the number of assignments. Assignments that had very low accuracy demands (e.g. writing spelling words repeatedly) or could not be scored for accuracy (e.g. obtaining a newspaper story that reflected a current event) consistently were excluded from accuracy averages.

**Academic Response Rate.** Academic response rate was calculated for each assignment separately by counting the number of academic responses made by the student and dividing by the number of minutes the student spent working on that assignment. During baseline phases, number of minutes spent working on an assignment was derived from an Assignment Monitoring Form completed by students. During intervention phases, number of minutes spent working on an assignment was derived from Goal Setting Worksheets. Average response rate was calculated by summing the response rate for all assignments on a given day and dividing by the number of assignments.

**Interobserver Agreement and Quality Assurance.** For 22% of all homework sessions, student behavior was recorded independently by a second observer. Interval-by-
interval comparisons were made for occurrences of each coded variable and agreement was scored when both observers recorded the occurrence of a target behavior. In addition, work completed during approximately 22% of the homework sessions attended by each participant was evaluated for accuracy by a second research assistant. Answer-by-answer comparisons were made and scored as an agreement unless an answer was marked as incorrect by one observer and not the other. All interobserver agreement calculations were computed using a standard formula (agreements divided by agreements plus disagreements times 100) with the following results: Overall agreement was 95% for on-task (range, 87% to 100%), 94% for off-task/distracted (range, 80% to 100%), 97% for off-task absent (range, 80% to 100%), and 95% for accuracy (range, 77% to 100%).

Number of academic responses determined for each assignment was reviewed by the experimenter. Also, the accuracy of all calculations (e.g. percent on-task, accuracy, and academic responses per minute) was checked by the experimenter. Few discrepancies were found and were resolved during weekly research meetings.

Participation Procedures

The setting for homework sessions remained consistent throughout the study except for the unique procedures
associated with the baseline and intervention phases which are described below. In addition, procedures for the intake session, intervention training session, and post-participation session are described below in the order in which they occurred.

**Intake Session.** Written informed consent for the student's participation was obtained from parents. A consent form (see Appendix H) provided by the experimenter described the various requirements of the study and asked that parents provide their signature if they agreed for their child to participate. Also, parents completed the Child Behavior Checklist (Achenbach & Edelbrock, 1983) a widely used parent-report instrument which assesses for internalizing and externalizing behavior problems in children and adolescents, and a demographic questionnaire (see Appendix I) which requested the following information: Parents' age, marital status, race, educational level, occupation, and income; participant's age, sex, and date of birth; ages and sexes of other household members; and whether or not the participant or parent had sought mental health services previously. To verify that students meet selection criteria, a thorough assessment of the student's homework routine and associated problems was conducted using the Homework Intake Questionnaire (see Appendix J) and completion of
the Homework Problem Checklist (Anesko, et al., 1987). In addition, students completed the version of the Homework Problem Checklist modified to assess their perceptions of current homework problems.

The nature of after-school homework sessions was described and families were provided with a copy of the homework session rules. The Parent Participation Contract (see Appendix K) and Student Participation Contract (see Appendix L) were reviewed with families. These contracts stated that the experimenter would provide a 60-minute, after-school homework session each school day and an intervention designed to address homework problems. The contracts required students and parents to agree that the student would miss no more than two homework session per week unless illness occurred. Also, parents and students agreed to implement the intervention provided by the experimenter. In addition, the student contract stated that the student understood the homework session rules and agreed to follow them. Parents and students were asked to sign their respective contracts indicating that they intended to comply with participation requirements.

Baseline Phase. During baseline, students began attending after-school homework sessions. Students were required to adhere to homework session rules, but otherwise were allowed to work on assignments in any
manner they chose. The only demand placed on students was that they complete an Assignment Monitoring Form (see Appendix M) in which they briefly described their assignments and recorded the time at which they started and stopped working on each assignment. Twice per session, each student was checked by a monitor to verify that he or she was recording start and stop times accurately. During baseline, number of minutes spent working on each assignment was determined by subtracting stop-time from start-time. The resulting value was used as the divisor to calculate response rate for that assignment.

**Intervention Training Session.** Prior to utilizing either treatment, student/parent dyads meet individually with the experimenter to discuss the intervention phase of the study. Participants were provided with written materials that described the rationale and procedures for goal setting (see Appendix N) and contingency contracting (see Appendix O). Participants were trained in the use of each treatment component via discussion, modeling, practice, and performance feedback.

Participants were taught to use goal setting with homework in the manner described by Miller and Kelley (1993) and by Kahle and Kelley (1994). The only modification was that students were trained to establish
goals without input from parents. Specifically, students were taught to divide homework into small goals that were challenging but attainable. Each homework goal identified a specific task to be accomplished and a time limit for completion. Examples of typical student goals included the following: define 5 vocabulary words in 5 minutes, solve 10 math problems in 7 minutes, or read the first section in a history text in 10 minutes. Students recorded all goals on a Goal Setting Worksheet (see Appendix P).

After a goal was determined and recorded, students were taught to start a stopwatch and begin working immediately. Students were instructed to stop the stopwatch and record the time shown when they completed the task described on their goal setting worksheet or when they noticed that the time limit has passed. Students were told that once they stopped the stopwatch, they must evaluate goal achievement immediately and record it on the Goal Setting Worksheet. When a goal was not met, students were instructed to incorporate incomplete items into the next goal.

Participants practiced goal setting in the experimenter’s presence using homework assignments they brought to the session. To help insure treatment integrity, the Goal Setting Checklist (see Appendix Q) was

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reviewed with participants before they set their first goal. Each time a goal was set, the experimenter completed the Goal Setting Checklist and provided performance feedback. Students were considered to have mastered goal setting when they receive a check in each of the following categories for two goals: (1) the goal was written on the Goal Setting Worksheet; (2) the number of items to be completed and time limit were recorded; (3) the stopwatch was started; (4) the student began working immediately after the stopwatch was started; (5) the student stopped working immediately after the stopwatch was stopped; (6) the student correctly recorded actual time needed to complete the goal; (7) the goal was evaluated accurately; and (8) if the goal was not met, incomplete portions were incorporated into the next goal.

Students were told that, at the end of each homework session, research assistants would calculate number of minutes spent working on homework goals and percent of goals met. Number of minutes spent working on goals was determined by summing the number of minutes needed to complete each goal. Percent of goals met was determined by dividing number of goals met by number of goals set and multiplying by 100.

Next, contingency contracting was described to parents and students. Participants were told that on some
days, they would use goal setting as usual, but would have the opportunity to earn rewards for adequate goal achievement. Students were told that the word "REWARDS" would be written in red at the top of their Goal Setting Worksheet if it was a day that rewards could be earned.

A contingency contract (see Appendix R) that specified conditions for receiving a reward for adequate goal achievement was negotiated between parents and students. Parent and student input was used to identify a compelling reward that parents would be willing to provide contingently on reward days and noncontingently on goal setting only days. Examples of rewards utilized by families included the following: skateboarding, after-school snack money, extra television time, uninterrupted time to listen to music, uninterrupted time to use the telephone, extended bedtime, and extended curfew. Students were told that on reward days, the identified privilege would be available only if they spent a specified number of minutes working on goals and meet at least 80% of their homework goals. Between 45 and 50 minutes was suggested as the number of minutes students should be required to work on goals in order to earn rewards. A requirement in this range was suggested because it was consistent with educational researchers' guidelines about the amount after-school study time.
recommended for sixth through ninth grade students (Cooper, 1989; Keith, 1986; Morison & Brady, 1994).

Participants were told that on goal setting only days, students were to receive the identified reward noncontingently. Parents were told that a daily note (see Appendix S) would be sent home with students to communicate information about the student's condition for that day (goal setting only versus goal setting plus rewards) as well as the percent of goals met and number of minutes spent working on goals if it was a goal setting plus rewards day. On goal setting only days, parents did not receive information about percent of goals met or number of minutes spent working on goals.

**Intervention Phase.** The first homework session attended by students after they participated in intervention training marked the beginning of the intervention phase. During all homework sessions in this phase, goal setting was used in the manner described above. Procedures on goal setting only days versus goal setting plus rewards days were identical except for the following features: (1) on goal setting plus rewards days, students were informed at the beginning of the session that rewards could be earned for adequate goal achievement; (2) on goal setting plus rewards days, the word "REWARDS" was written in red at the top of students'
goal setting worksheets; (3) on goal setting plus rewards days, students received the reward specified on their homework contract only if they meet at least 80% of their homework goals and spent the specified number of minutes working on goals; and (4) on goal setting only days, students received rewards specified on their homework contract noncontingently (regardless of the percent of goals met and number of minutes spent working on goals). During the intervention phase, the two treatments were rapidly alternated in random order across days with the only stipulation being that the same treatment could not occur for more than 2 days in a row.

Several treatment integrity measures were implemented when students entered the intervention phase. First, research assistants unobtrusively observed students' goal setting and completed the Goal Setting Checklist twice during each homework session. As soon as the goal was complete, students were provided with performance feedback. Also, in an effort to encourage parents to provide consequences consistently, once a week, on random evenings, the experimenter telephoned students' parents and asked whether the student had had access to his or her identified reward. If the parent's response was not consistent with the action specified in the student's contingency contract, problems with providing and
withholding rewards were discussed. If problems could not be resolved, another intervention training session was scheduled and a new contingency contract was negotiated in the manner described above.

Baseline II Phase. In this stage of the study, both interventions were withdrawn and the conditions of baseline were restored. Procedures for homework sessions were the same as the initial baseline phase. The experimenter met with students and their parents and explained that, for a time, neither intervention would be used. Students were told that they would continue to attend sessions but that they would not use goal setting or contingency contracts. Parents were encouraged to respond to students' homework behavior as they did prior to the intervention phase.

Intervention II Phase. In this final stage of the study, both interventions were reinstated in the manner used in the initial intervention phase. Immediately prior to beginning this phase, the experimenter reviewed procedures for goal setting and contingency contracting with students and their parents.

Post-participation Assessment. At the conclusion of participation, a meeting was scheduled with students and their parents. During this meeting, parents completed a Homework Problem Checklist and a Consumer Satisfaction
Questionnaire-Parent Version. Students completed a Consumer Satisfaction Questionnaire-Student Version and the student version of the Homework Problem Checklist.
Results

Individual on-task rates, academic response rates, and accuracy rates for each participant are presented in Figures 1 through 6. Results for each variable are discussed separately below.

Percent On-task

On-task results for Daniel, Stacey, and Amy are presented in Figure 1. Daniel was on-task for a mean of 55% of intervals during the initial baseline phase. During the first intervention phase, mean intervals on-task increased to 65% during goal setting only and 78% during goal setting plus rewards. During return to baseline, Daniel's performance was variable (range, 24% to 92%) with a mean of 67%. When the interventions were reintroduced, his mean on-task rate was 89% for goal setting only and 86% for goal setting plus rewards.

Stacey's on-task behavior during baseline showed a decreasing trend and averaged 44%. Percentage of on-task behavior increased during goal setting only (X=78%) and goal setting plus rewards (X=70%) and decreased (X=50%) during return to baseline. Average on-task level increased to 83% for both goal setting only and goal setting plus rewards when interventions were reintroduced.

Amy's level of on-task behavior averaged 59% and was variable (range, 18% to 84%) during baseline. Introduction
Figure 1. Percentage of intervals on-task during baseline and intervention conditions for Daniel, Stacey, and Amy.
of each intervention produced more stable on-task rates and a significant increase in on-task behavior (X=81% for goal setting only; X=82% for goal setting plus rewards). On-task average decreased to 44% during return to baseline and improved significantly when interventions were reintroduced (X=83% for goal setting only, X=81% for goal setting plus rewards).

On-task rates for Marc, Al, Cindy, and Stephanie are presented in Figure 2. Marc’s baseline on-task levels were variable (range, 56% to 0%). When interventions were introduced, Marc’s on-task behavior increased from a mean of 24% during baseline to a mean of 70% for goal setting only and 73% for goal setting plus rewards. Percentage of intervals on-task decreased and averaged 30% during return to baseline. During the second treatment phase, on-task rates increased to an average of 73% for goal setting only and 76% for goal setting plus rewards.

Al’s percentage of intervals on task varied widely throughout all but the last phase of the study. Percentage of intervals on-task averaged 66% during the initial baseline compared to 74% for goal setting only and 75% for goal setting plus rewards during the first intervention phase. On-task rates decreased with a mean of 58% during return to baseline and increased when
Figure 2. Percentage of intervals on-task during baseline and intervention conditions for Marc, Al, Cindy, and Stephanie.

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treatments were reintroduced (X=73% for goal setting only, X=75% for goal setting plus rewards).

Cindy's on-task rate had a mean of 87% during baseline and increased to a mean of 93% for both goal setting only and goal setting plus rewards during the first intervention phase. Percentage of intervals on-task decreased to 66% during return to baseline and increased when goal setting only (X=79%) and goal setting with rewards (X=90%) were reintroduced.

Stephanie's on-task rates averaged 75% during baseline. In the first intervention phase, on-task behavior increased to a mean of 83% for both goal setting only and goal setting plus rewards. In return to baseline, percentage of intervals on-task decreased and averaged 48%. When interventions were reintroduced, on-task rates increased (X=83% for goal setting only; X=89% for goal setting plus rewards).

**Academic Response Rate**

Academic response rate data is shown in terms of average responses per minute and is seen in Figure 3 for Daniel, Stacey, and Amy. Daniel's response rate averaged .55 responses per minute during baseline. During intervention, response rate more than doubled to an average of 1.19 responses per minute for goal setting only and 1.09 responses per minute for goal setting plus...
Figure 3. Academic responses rate during baseline and intervention conditions for Daniel, Stacey, and Amy. The "*" symbol denotes sessions in which students reported having no homework assignments that required a written response.
rewards. In return to baseline, mean response rate decreased slightly to 1.06 and again increased when interventions were reintroduced (X=1.25 for goal setting only, X=1.29 for goal setting plus rewards).

Stacey’s average response rate was .89 during baseline. Mean response rate increased to 1.18 responses per minute during goal setting only and 1.02 responses per minute during goal setting plus rewards. In return to baseline, average response rate decreased to .79. Mean response rate increased to 1.12 responses per minute during goal setting only and 1.03 responses per minute during goal setting plus rewards.

Amy’s had a mean response rate of .47 during baseline. During the initial intervention phase, response rate more than doubled to a mean of 1.33 responses per minute during goal setting only and 1.61 responses per minute during goal setting plus rewards. In the return to baseline phase, average response rate decreased to .34 and more than tripled during the second intervention phase (X=1.45 for goal setting only, X=1.37 during goal setting plus rewards).

Academic responses rate results for Marc, Al, Cindy, and Stephanie are presented in Figure 4. Marc completed written work during only one of the baseline sessions and obtained a rate of .59 responses per minute. When
Figure 4. Academic response rate during baseline and intervention conditions for Marc, Al, Cindy, and Stephanie. The "*" symbol denotes sessions during which students reported having no homework assignments that required a written response.
interventions were introduced, response rate increased to an average of 1.26 responses per minute during goal setting only and 1.34 responses per minute during goal setting plus rewards. During the return to baseline sessions, Marc completed no written work; therefore, a response rate could not be calculated. When interventions were reintroduced, average response rate was 1.20 responses per minute for goal setting only and 1.48 responses per minute for goal setting plus rewards.

During baseline, Al’s mean response rate was 0.66 which increased to 1.12 during goal setting only and 1.26 during goal setting plus rewards. Return to baseline mean response rate decreased to 0.61. During the second intervention phase, average responses per minute increased to 1.45 for goal setting only and 1.48 during goal setting plus rewards.

Cindy had a mean response rate of 0.48 during baseline. When interventions were introduced response rate more than double for goal setting only ($\bar{X}=1.18$) and goal setting plus rewards ($\bar{X}=1.08$). Cindy’s return to baseline response rate decreased slightly to an average of 0.98. During goal setting only, average response rate decreased slightly to 0.91 responses per minute compared to an increase in responses per minute during goal setting plus rewards ($\bar{X}=1.29$).
During baseline, Stephanie had a mean response rate of .66 which more than doubled to an average of 1.33 responses per minute during goal setting only and 1.61 responses per minute during goal setting plus rewards. Average responses per minute decreased to a mean of .65 during return to baseline. When interventions were reinstated, average response rate again more than doubled to 1.51 during goal setting only and 1.34 during goal setting plus rewards.

Accuracy

Accuracy results for Daniel, Stacey, and Amy are presented in Figure 5. During baseline, the accuracy of Daniel's completed homework was variable (range, 0% to 82%) and averaged 45%. Accuracy increased during goal setting only (X=70%) and goal setting plus rewards (X=85%). Average homework accuracy decreased to 60% during return to baseline and increased when interventions were reintroduced (X=76% for goal setting only, X=86% for goal setting plus rewards).

Stacey's mean accuracy was 87% during baseline and decreased slightly when interventions were introduced (X=86% for goal setting only, X=85% for goal setting plus rewards. During return to baseline, accuracy increased to an average of 92% and decreased to 80% for goal setting.
Figure 5. Accuracy of completed homework during baseline and intervention conditions for Daniel, Stacey, and Amy. The "*" symbol denotes sessions in which no written work that could be scored for accuracy was completed.
only and 89% for goal setting plus rewards during the second intervention phase.

Amy's accuracy averaged 60% during baseline. When goal setting only and goal setting plus rewards were introduced, mean accuracy increased to 90% and 88% respectively. During return to baseline, average accuracy decreased to 73% and increased to 97% for goal setting only and 91% for goal setting plus rewards when interventions were reinstated.

Accuracy data for Marc, Al, Cindy, and Stephanie are presented in Figure 6. Marc completed written work which could be scored for accuracy during only one of the baseline sessions and obtained an accuracy level of 65%. When interventions were introduced, accuracy averaged 93% for goal setting only and 83% for goal setting plus rewards. During the three return to baseline sessions, Marc completed no written work that could be scored for accuracy. When interventions were reintroduced, average accuracy was 79% for goal setting only and 88% for goal setting plus rewards.

Throughout his participation, Al's accuracy was relatively stable. During baseline, accuracy averaged 84%. When interventions were introduced mean accuracy was 84% for goal setting only and 96% for goal setting plus rewards. Return to baseline mean accuracy was 87%. When
Figure 6. Accuracy of completed homework during baseline and intervention conditions for Marc, Al, Cindy, and Stephanie. The "*" symbol denotes sessions in which no written work that could be scored for accuracy was completed.
interventions were reinstated average accuracy was 85% for
goal setting only and 90% for goal setting plus rewards.

Cindy’s had a mean baseline accuracy of 81%. Average
accuracy for goal setting only was 77% compared to 84% for
goal setting plus rewards during the first intervention
phase. During return to baseline, mean accuracy decreased
to 68% and increased to 86% during goal setting only and
89% during goal setting plus rewards.

During baseline, the mean accuracy of Stephanie’s
completed homework was 62%. Accuracy increased to a mean
of 85% during goal setting only and 83% during goal
setting plus rewards. Average accuracy decreased to 64%
during return to baseline and again increased during goal
setting only (X=89%) and goal setting plus rewards (X=80).

Homework Problem Checklist

Pre- and post-participation scores on the parent and
student versions of the Homework Problem Checklist (HPC)
are presented in Figure 7. The parent-rated homework
behavior problems of Stacey, Al, and Stephanie improved
markedly. Although decreased total scores at post-
treatment also were seen for Daniel and Marc, these
students’ parents continued to endorse many homework
behavior problems at post-participation. Cindy’s parent-
reported HPC scores did not reflect notable improvement.
Post-participation HPC scores for Amy were not available.
Figure 7. Pre- and post-participation scores on the parent and student versions of the Homework Problem Checklist.
On the student version of the HPC, Amy, Marc, Al, and Stephanie reported a notable decrease in homework problems. However, Daniel reported minimal changes in homework problems and Cindy’s self-reported homework problems increased over the course of the study.

Grade Point Average

Students’ grade point average (GPA) for the quarter immediately prior to their participation and the quarter during their participation were calculated from grades in academic subjects. Results are shown in Figure 8. GPA information was not available for Amy. For all other participants, GPA increased during the quarter that coincided with participation compared to the quarter immediately preceding participation. However, for Marc and Cindy, improvements were very small. Also, for Daniel and Marc, even during regular participation in after-school homework sessions, grades in academic subjects remained below a C average.

Consumer Satisfaction

Parents’ and students’ consumer satisfaction ratings of each aspect of participation (i.e. attending homework sessions, using goal setting with homework, and using goal setting plus rewards with homework) are presented in Table 1. Parent consumer satisfaction ratings from Amy’s parent were not available. Parents indicated that they were
Figure 8. Students' grade point averages in academic subjects in the quarter immediately preceding participation and the quarter during participation.
satisfied with the homework sessions and found both goal setting only and goal setting plus rewards to be valuable and efficacious interventions. No parent reported a strong preference for one intervention over the other. Similarly, students indicated a high level of overall satisfaction with homework session and the interventions. Only one student indicated a strong preference for one of the interventions. Marc’s consumer satisfaction rating of goal setting plus rewards was more than twice as high as his rating of goal setting only.
Table 1. Parent- and Student-reported Consumer Satisfaction Ratings.

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<th>Daniel</th>
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<th>Marc</th>
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<tr>
<td>Goal Setting + Rewards (Range, 5 to 35)</td>
<td>31</td>
<td>33</td>
<td>32</td>
<td>26</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total Score</strong> (Range, 18 to 126)</td>
<td>111</td>
<td>109</td>
<td>106</td>
<td>104</td>
<td>115</td>
<td>122</td>
</tr>
<tr>
<td><strong>Student Ratings</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attending Homework Sessions (Range, 3 to 21)</td>
<td>17</td>
<td>14</td>
<td>12</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Goal Setting Only (Range, 3 to 21)</td>
<td>16</td>
<td>18</td>
<td>8</td>
<td>20</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>Goal Setting + Rewards (Range, 3 to 21)</td>
<td>14</td>
<td>17</td>
<td>17</td>
<td>16</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Score</strong> (Range, 11 to 77)</td>
<td>59</td>
<td>61</td>
<td>46</td>
<td>67</td>
<td>70</td>
<td>67</td>
</tr>
</tbody>
</table>
Discussion

The current study demonstrated that use of goal setting during homework completion is associated with significant improvements in students' performance. Specifically, results across subjects showed increased on-task behavior, increased academic response rate, or both for all participants in at least one of the intervention phases. Nearly equivalent improvements were seen regardless of whether rewards were earned contingent upon goal achievement or were provided noncontingently. In addition, parent-reported homework behavior problems at post-participation decreased for all participants compared to pre-participation scores and students' own perceptions of homework problems decreased over the course of participation for all participants but one.

Amy and Marc showed clinically significant improvements in both on-task rates and response rates during intervention phases. For Amy, average on-task rates improved by more than 25% during intervention phases and response rate more than doubled. For Marc, on-task averages increased by more than 40% during intervention phases. The impact of goal setting on Marc's response rate seems particularly important given that there were four session during baseline phases in which Marc had written homework assignments but completed no written
work. During the intervention phases, this behavior was not seen and Marc's average response rate was greater than one response per minute.

For Stephanie, Daniel, and Cindy, the most pronounced improvement during intervention were seen for response rate. Stephanie's average response rate more than doubled during both intervention phases compared to her rate during baseline and return-to-baseline. For Daniel and Cindy, response rates more than doubled when interventions were introduced and remained near this level for the remaining phases of the study. In addition, moderate improvements were seen in these participants' on-task rates during intervention.

Al also showed an improvement in response rate during intervention phases although the effect emerged more slowly compared to other participants. During the first intervention phase response rate showed an increasing trend. However, during the second intervention phase, Al's response rate immediately increased to a level that was more than twice that which was seen during return-to-baseline.

For Stacey, on-task rate was the outcome variable most significantly impacted during intervention. Compared to baseline, her on-task rates improved by approximately 25% during both intervention phases. Stacey was the only
subject for whom significant improvements in on-task rate during intervention were not associated with concurrent improvements in response rate. Antedoctal observations of Stacey's homework assignments suggest a possible explanation for this finding. As one of the older participants, Stacey seemed to have more assignments which did not require a written response such as reviewing for an exam or completing a reading assignment. Thus, there may have been fewer opportunities for the interventions to have an impact on response rate. Additionally, although Stacey's mean response rate increased only slightly during intervention, more stable response rates were seen during intervention compared to the descending trends in response rate seen during both baseline phases.

The improvements in on-task rate and academic response rate seen in this study support the hypothesis that self-managed use of a goal setting intervention by older students can produce positive changes in homework behavior similar to those seen when a parent-managed version of the intervention was used with younger students (Kahle & Kelley, 1994). Positive effects on response rate seem particularly important when research demonstrating the association between increased response rate and improvements in academic achievement is considered (Baer & Bushell, 1981; Carroll, 1963, Leach & Dolan, 1985). In
addition, the improved efficiency associated with increased response rates should leave students with more time for additional study or other important activities.

Overall, students’ homework accuracy was highly variable throughout the study. Although most participants showed at least a modest increase in average accuracy during the intervention phases, clear improvements in accuracy during intervention phases were not evident. This result is not consistent with previous research using a parent-managed goal setting intervention (Miller & Kelley, 1994) and several hypotheses for the finding must be considered.

First, in the current study, accuracy was not targeted directly as in previous goal setting studies because parents were not available to give accuracy feedback as assignments were completed. Thus, although parents may have reviewed assignment accuracy and requested corrections, this feedback did not impact accuracy data in the current study. To enhance the efficacy of the goal setting, future research might consider incorporating feedback about the accuracy and quality of completed work as empirical support for the benefits of this practice is strong (Walberg, 1984).

Another possible explanation for the lack of improvement in accuracy is that the increases in response
rate seen during intervention phases allowed students time to complete a greater number and variety of assignments during homework sessions. This may have resulted in students attempting more difficult assignments during treatment.

Finally, it may have been that throughout the study, students attempted to provide accurate answers, but lacked the skills to respond correctly to some assignments. This explanation is consistent with some previous studies which have found that homework participation improves, but accuracy continues to be highly variable after a homework intervention is provided (Olympia et al., 1994).

Although concurrent improvements in on-task behavior, response rate, and accuracy would have been ideal, the failure of goal setting to produce consistent improvements in homework accuracy is not insuperable for several reasons. First, as children monitor their ability to complete work within a self-determined time limit, one concern is that they might hurry through assignments and make many careless errors. Fortunately, accuracy data from the current study did not support this trend. Although consistent improvements in accuracy were not evident during intervention, goal setting also was not associated with a discernible deterioration in homework accuracy.
Recent trends in educational literature propose that educators encourage students to strive for effortful, rather than error-free, responses. Authors supporting this position suggest that effortful responses, whether correct or incorrect, provide vital information about the status of a student's understanding and skill acquisition (Morison & Brady, 1994). Thus, an important quality of the goal setting intervention may be that it prompts students to consider the efficiency and effortfulness of their responding each time they evaluate a goal.

The lack of differentiation in outcomes between the two interventions was surprising and unexpected given that goal setting plus contingent rewards seems to be a more potent intervention. Several hypotheses for this finding must be considered. One potential explanation is that rewards for goal achievement are not necessary for goal setting to be effective. In previous studies, goal setting without rewards has been shown to increase work efficiency when applied to a variety of tasks (Flexer, Newberry, & Martin, 1979; Schunk, 1983).

Another hypothesis is that the equivalent abilities of goal setting only and goal setting plus rewards to improve performance may be attributable to an induction effect. That is, positive transfer between the two interventions may have resulted in behavior during goal
setting only more closely approximating the behavior seen during goal setting plus rewards than would occur if the treatments were applied individually (Barlow & Hayes, 1979). On goal setting only days, noncontingent rewards were chosen, rather than no rewards, to prevent contrast effects (i.e. changes in behavior in a direction opposite to that expected due to a contrast with another treatment, Barlow & Hayes, 1979). However, this procedure may have enhanced outcomes to a level above what would be seen if goal setting were used with no rewards rather than noncontingent ones.

Another possible explanation is that the more efficient homework completion seen when goal setting was used with both contingent and noncontingent rewards resulted in students having more access to reinforcing activities during after-school hours. Some anecdotal support for this hypotheses was apparent. For example, during the first intervention phase, one student reported that his parents had begun to allow him to attend a number of previously prohibited events (e.g. sibling’s sports events, community youth activities) because he was able to complete the majority of his assignments during after-school homework sessions. Thus, the natural consequences of completing homework efficiently may have helped maintain improved performance during the goal setting only
intervention. Future research might attempt to identify the extent to which unspecified positive consequences are associated with more efficient assignment completion and determine if these natural consequences are sufficient to maintain more efficient work habits.

Despite positive findings, several limitation of the current study should be mentioned. First, generalizibility of results is limited due to the small sample size and is restricted to populations similar to those used in this study. In addition, the study was conducted in an analogue setting and the extent to which the efficacy of the interventions would be maintained in the natural environment is not known. Although goal setting seems to hold promise as a self-managed intervention which can be used by students to improve homework performance, additional refinement of the intervention through further empirical evaluation is needed.
References


Hollingshead, A. B. (1975). Four-factor index of social status. (Available from August B. Hollingshead, Department of Sociology, Yale University, New Haven, CT 06520).


Appendix A

Parent Letter

Dear Parent,

Homework problems are a concern of many parents, students, and teachers. With the cooperation of your child’s school, we are about to begin a research project that will investigate ways to help children who have trouble completing their homework. Ms. Kahle is a doctoral candidate in the Department of Psychology at LSU. The project will serve as her dissertation research and will be supervised by Mary Lou Kelley, Ph.D., a professor in the LSU Department of Psychology.

We are looking for students who have difficulty completing their homework assignments to participate in the study. Participants will attend a 60-minute, after-school homework session 3 to 5 afternoons a week for 8 to 10 weeks. All participants will be provided with an intervention for homework problems.

If you are interested in participating or would like more information, please contact Alice Kahle at 928-4424 or 388-8745. Thank you for your interest in the project.

Sincerely yours,

Alice L. Kahle, M.A.  Mary L. Kelley, Ph.D.
Graduate Student  Professor, LSU Dept. of Psychology
Appendix B

Homework Session Rules

1. You must be in the room and seated at the beginning and end of each homework session. If you need to leave during the homework session you should check out with the monitor. Anytime you check out, you must not be gone more than five minutes.

2. To check out, tell the monitor why you need to leave. The monitor will show you where to write your initials. When you return, check with the monitor again before you go to your seat.

3. During the homework session, assignments that require you to write down an answer must be done first. If you finish all your assignments of this type before the session ends you must tell the monitor.

4. If you need help with something, raise your hand. A monitor will come to your desk. You can ask for help up to 3 times per session.

5. Talking to other students or disrupting them in any way is not allowed during the homework session.

6. Stop working when the monitor says it is time. Be ready to show the monitor all the work you have done during the session. The monitor will make a photocopy of your work, then you may go.
Appendix C

Guidelines for Monitoring Sessions

Using the Homework Session Monitoring Form. At the beginning of the session, write each student's name, the date, and your initials on a separate Homework Session Monitoring Form. If a student is not present during the homework session, write "Absent" across the top of his or her monitoring form.

Each time a student leaves the room, use his or her Homework Session Monitoring Form to record the time under the "Time Out" column and reason for leaving under the "Reason" column. Have the student write his or her initials on the same line under the "Initials" column. When the student returns, record the time under the "Time In" column. Calculate the number of minutes the student was gone and record it under the "Minutes Gone" column. At the end of the homework session, sum the values in the "Minutes Gone" column on each student's Homework Session Monitoring Form.

Immediately after providing a student with assistance, use the lines at the bottom of his or her Homework Session Monitoring Form to describe the assignment and assistance provided. Describe assistance given as specifically as possible (e.g., social studies worksheet - clarified instructions, math problems - checked first division problem to verify accuracy, reading comprehension questions - defined an unfamiliar word).

Using the Assignment Monitoring Form. At the beginning of each session, each student should be given an Assignment Monitoring Form with his or her name written at the top. Students will be instructed in the use of this form during the participant intake session. However, monitors should be prepared to explain the correct use of the form to students who have questions or are observed to use the form incorrectly. Before beginning work on an assignment, students are to record a brief description of the assignment and the time at which they begin under the appropriate columns. When students stop working on an assignment, because they finish or because they need to check out, they again record the time under the appropriate column. Twice during each session, a monitor should verify that students are recording start-times and finish-times accurately and initial by these times. This process should be repeated each time a student begins working on a new homework assignment. Keep in mind that
the purpose of this form is to be able to determine the number of minutes the student worked on each assignment.

Enforcing Session Rules. Students must be in the room and seated at the beginning and end of the session. If a student is late arriving, record the session starting time under the "Time Out" column and the time the student arrives under the "Time In" column. Write "late" under the "Reason" column. If a student fails to return from a break before the session ends, record the session ending time under the "Time In" column. When either situation occurs, remind the student that he or she agreed to be in the room at the beginning and end of every session.

Each student may receive help from monitors up to three times per session. Help is defined as any action by a monitor that assists a student in completing an assignment or participating in an intervention. Remember to describe any help provided on the student’s Homework Session Monitoring Form. If a student requests assistance after he or she has used three helps, remind the student that only three helps are allowed. Ignore any additional requests for help by the student.

If a student is talking to or disrupting other students, walk to the student’s desk and tell him or her that the behavior must stop because it is making it hard for other students to work. If the behavior continues, tell the student he or she must check out for five minutes. If the student begins disturbing other students after he or she returns, warn the student that his or her parents will be contacted if the disruption does not stop immediately. If the disruptive behavior continues asked the student to check out again and contact the experimenter about getting in touch with the student’s parent.

Photocopying Student’s Completed Work. At the end of the session tell the students to stop working and place any work done on top of their desk. Make a photocopy of the student’s work and the assignment instructions as well as text book pages from which the assignment was taken if they are available. Record the student’s initials and the date at the top of each photocopied page. Staple the photocopies to the students Homework Session Monitoring Form from that day. Dismiss students one at a time as you finish photocopying their work.
Appendix D

Consumer Satisfaction Questionnaire-Parent Version

Name _________________________ Date ______________

Instructions

This questionnaire is designed to help us evaluate various aspects of the treatment program your child received. It is important that you answer as honestly as possible.

First, you will evaluate ATTENDING THE HOMEWORK SESSIONS, USING GOAL SETTING ONLY, and USING GOAL SETTING PLUS REWARDS separately. As a reminder, each aspect of the program is defined as follows:

ATTENDING THE HOMEWORK SESSIONS - The student attended an after-school homework session. Sessions took place in a quiet room and were monitored by an adult who was available to provide some assistance with assignments.

GOAL SETTING ONLY - The student broke assignments down into work goals. Goals were written on a goal setting worksheet and stated number of items to be completed and a time limit for completion. Students timed themselves with a stopwatch and evaluated whether or not goals were met. Students received a home reward which was not contingent on participation in goal setting.

GOAL SETTING WITH REWARDS - The student used goal setting in the same manner described above. A contract was negotiated between the student and parent. The student received a home reward only if he or she met the goal setting requirements specified in the contract.

Finally, you will make some evaluations of the treatment program as a whole.

Your responses will help us evaluate the program we offer and identify which parts of the program are most helpful. Your cooperation is greatly appreciated.
A. ATTENDING THE HOMEWORK SESSIONS

1. I feel that having my child ATTEND THE HOMEWORK SESSIONS was
   _____ Very unhelpful
   _____ Unhelpful
   _____ Somewhat unhelpful
   _____ Neutral
   _____ Somewhat helpful
   _____ Helpful
   _____ Very helpful

2. Would you recommend ATTENDING HOMEWORK SESSIONS to a
   friend or relative whose child is having homework problems.
   _____ Strongly recommend against attending
   _____ Recommend against attending
   _____ Slightly recommend against attending
   _____ Neutral
   _____ Slightly recommend attending
   _____ Recommend attending
   _____ Strongly recommend attending

3. I feel that having my child ATTEND THE HOMEWORK SESSIONS was
   _____ Very difficult
   _____ Difficult
   _____ Somewhat difficult
   _____ Neutral
   _____ Somewhat easy
   _____ Easy
   _____ Very Easy

4. How likely is it that you will use a routine like the one used during HOMEWORK SESSIONS (i.e. having your child work on homework for a specified amount of time in a setting that is monitored by an adult who can provide some assistance) to manage your child’s future homework problems?
   _____ Very unlikely
   _____ Unlikely
   _____ Somewhat unlikely
   _____ Neutral
   _____ Somewhat likely
   _____ Likely
   _____ Very likely
5. How confident are you that using a routine like the one used during HOMEWORK SESSIONS will be an effective way to manage future homework problems?
   _____ Very unconfident
   _____ Unconfident
   _____ Somewhat unconfident
   _____ Neutral
   _____ Somewhat confident
   _____ Confident
   _____ Very confident

B. GOAL SETTING ONLY

1. I feel that having my child use GOAL SETTING ONLY was
   _____ Very unhelpful
   _____ Unhelpful
   _____ Somewhat unhelpful
   _____ Neutral
   _____ Somewhat helpful
   _____ Helpful
   _____ Very helpful

2. Would you recommend GOAL SETTING ONLY to a friend or relative whose child is having homework problems.
   _____ Strongly recommend against using
   _____ Recommend against using
   _____ Slightly recommend against using
   _____ Neutral
   _____ Slightly recommend using
   _____ Recommend using
   _____ Strongly recommend using

3. I feel that having my child use GOAL SETTING ONLY was
   _____ Very difficult
   _____ Difficult
   _____ Somewhat difficult
   _____ Neutral
   _____ Somewhat easy
   _____ Easy
   _____ Very Easy
4. How likely is it that you will use **GOAL SETTING ONLY** (i.e. encouraging your child to use goal setting during homework completion) to manage your child's future homework problems?
   - Very unlikely
   - Unlikely
   - Somewhat unlikely
   - Neutral
   - Somewhat likely
   - Likely
   - Very likely

5. How confident are you that using **GOAL SETTING ONLY** will be an effective way to manage future homework problems?
   - Very unconfident
   - Unconfident
   - Somewhat unconfident
   - Neutral
   - Somewhat confident
   - Confident
   - Very confident

C. **GOAL SETTING PLUS REWARDS**

1. I feel that having my child use **GOAL SETTING PLUS REWARDS** was
   - Very unhelpful
   - Unhelpful
   - Somewhat unhelpful
   - Neutral
   - Somewhat helpful
   - Helpful
   - Very helpful

2. Would you recommend **GOAL SETTING PLUS REWARDS** to a friend or relative whose child is having homework problems.
   - Strongly recommend against using
   - Recommend against using
   - Slightly recommend against using
   - Neutral
   - Slightly recommend using
   - Recommend using
   - Strongly recommend using
3. I feel that having my child use GOAL SETTING PLUS REWARDS was
   ____ Very difficult
   ____ Difficult
   ____ Somewhat difficult
   ____ Neutral
   ____ Somewhat easy
   ____ Easy
   ____ Very Easy

4. How likely is it that you will use GOAL SETTING PLUS REWARDS (i.e. encouraging your child to use goal setting during homework and providing daily rewards he or she meets the goal setting requirements specified in a contract) to manage your child's future homework problems?
   ____ Very unlikely
   ____ Unlikely
   ____ Somewhat unlikely
   ____ Neutral
   ____ Somewhat likely
   ____ Likely
   ____ Very likely

5. How confident are you that using GOAL SETTING PLUS REWARDS will be an effective way to manage future homework problems?
   ____ Very unconfident
   ____ Unconfident
   ____ Somewhat unconfident
   ____ Neutral
   ____ Somewhat confident
   ____ Confident
   ____ Very confident

D. OVERALL FEELINGS ABOUT THE PROGRAM AS A WHOLE

1. My child's homework problems at this point are
   ____ Much worse
   ____ Worse
   ____ Somewhat worse
   ____ The same
   ____ Somewhat better
   ____ Better
   ____ Much better
2. Do you think participating in the homework program affected your child’s grades?
   _____ No
   _____ Yes

   If yes, how were grades affected?
   _____ Grades are much worse
   _____ Grades are worse
   _____ Grades are somewhat worse
   _____ Grades were unchanged
   _____ Grades are somewhat better
   _____ Grades are better
   _____ Grades are much better

3. My overall feeling about the treatment program is
   _____ Very negative
   _____ Negative
   _____ Somewhat negative
   _____ Neutral
   _____ Somewhat positive
   _____ Positive
   _____ Very positive

Please feel free to make any additional comments ____________________________
______________________________
______________________________
______________________________
______________________________
______________________________
______________________________
Appendix E

Homework Problem Checklist-Student Version

Name ___________________ Age ______________
Date_____________________ Grade __________________

FOR EACH STATEMENT, CHECK THE RESPONSE THAT BEST DESCRIBES YOUR BEHAVIOR DURING THE LAST TWO WEEKS.

<table>
<thead>
<tr>
<th></th>
<th>NEVER</th>
<th>AT TIMES</th>
<th>OFTEN</th>
<th>VERY OFTEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fail to bring home assignments and necessary materials.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Don't know exactly what homework has been assigned.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Deny having a homework assignment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Refuse to do homework assignments.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Whine or complain about homework.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Must be reminded to sit down and start homework.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Procrastinate, put off doing homework.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Doesn't do homework satisfactorily unless someone is in the room with me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Doesn't do homework satisfactorily unless someone does it with me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
10. Daydream or play with objects during homework.

11. Easily distracted by noise or activities of others.

12. Easily frustrated by homework assignment.

13. Fail to complete homework.

14. Take an unusually long time to do homework.

15. Respond poorly when told by parent to correct homework.

16. Produce messy or sloppy homework.

17. Hurry through homework and makes careless mistakes.

18. Show dissatisfaction with work, even when I did a good job.

19. Forget to bring assignments back to class.

20. Deliberately fail to bring assignment back to class.

NEVER | AT TIMES | OFTEN | VERY OFTEN

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Appendix F

Consumer Satisfaction Questionnaire-Student Version

Name_______________________ Date________________

The following questions ask how you feel about different parts of the homework program. Please answer as honestly as possible. Thanks for your help.

A. ATTENDING THE HOMEWORK SESSIONS

1. How much did ATTENDING THE HOMEWORK SESSIONS help your homework problems?
   ____ Very unhelpful
   ____ Unhelpful
   ____ Somewhat unhelpful
   ____ Don’t Know
   ____ Somewhat helpful
   ____ Helpful
   ____ Very helpful

2. My overall feeling about ATTENDING THE HOMEWORK SESSIONS was
   ____ Very bad
   ____ Bad
   ____ Somewhat bad
   ____ Don’t know
   ____ Somewhat good
   ____ Good
   ____ Very good

3. If you had a friend with homework problems, would you recommend that he or she try ATTENDING HOMEWORK SESSIONS?
   ____ Definitely not
   ____ No
   ____ Probably not
   ____ Don’t know
   ____ Probably yes
   ____ Yes
   ____ Definitely yes
B. GOAL SETTING ONLY

1. How much did GOAL SETTING ONLY help your homework problems?
   _____ Very unhelpful
   _____ Unhelpful
   _____ Somewhat unhelpful
   _____ Don't Know
   _____ Somewhat helpful
   _____ Helpful
   _____ Very helpful

2. My overall feeling about GOAL SETTING ONLY was
   _____ Very bad
   _____ Bad
   _____ Somewhat bad
   _____ Don't know
   _____ Somewhat good
   _____ Good
   _____ Very good

3. If you had a friend with homework problems, would you recommend that he or she try GOAL SETTING ONLY?
   _____ Definitely not
   _____ No
   _____ Probably not
   _____ Don't know
   _____ Probably yes
   _____ Yes
   _____ Definitely yes

C. GOAL SETTING PLUS REWARDS

1. How much did GOAL SETTING PLUS REWARDS help your homework problems?
   _____ Very unhelpful
   _____ Unhelpful
   _____ Somewhat unhelpful
   _____ Don't Know
   _____ Somewhat helpful
   _____ Helpful
   _____ Very helpful
2. My overall feeling about **GOAL SETTING PLUS REWARDS**
was
- Very bad
- Bad
- Somewhat bad
- Don't know
- Somewhat good
- Good
- Very good

3. If you had a friend with homework problems, would you recommend that he or she try **GOAL SETTING PLUS REWARDS**?
- Definitely not
- No
- Probably not
- Don't know
- Probably yes
- Yes
- Definitely yes

D. **OVERALL FEELINGS ABOUT THE PROGRAM AS A WHOLE**

1. At this point, my homework problems are
- Much worse
- Worse
- Somewhat worse
- The same
- Somewhat better
- Better
- Much better

2. Do you think participating in the homework program affected your grades?
- No
- Yes

If yes, how were grades affected?
- Grades are much worse
- Grades are worse
- Grades are somewhat worse
- Grades are the same
- Grades are somewhat better
- Grades are better
- Grades are much better
Please feel free to make any additional comments______________________________
Appendix G

Data Collection Procedures

Recording Student Behavior. During homework sessions, each student's behavior will be observed and recorded. The following student behaviors are included in the observation system.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Behavior Category and Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON</td>
<td>On-task - Students are recorded as on-task if, for the entire interval, their head and/or eyes were oriented toward materials (e.g. text book, notebook, workbook, worksheet, stopwatch) that are positioned appropriately (e.g. text is open, worksheet is face up) for working. During the intervention phases, students also are recorded as on-task if their head and/or eyes are oriented toward materials needed to participate in the intervention which are oriented appropriately for working.</td>
</tr>
<tr>
<td>OFF</td>
<td>Off-task/distracted - Students are recorded as off-task/distracted if they are in the room and do not meet the on-task criteria for the entire interval.</td>
</tr>
<tr>
<td>ABS</td>
<td>Off-task/absent - Students are recorded as off-task/distracted if they are outside the homework session for the entire interval.</td>
</tr>
</tbody>
</table>

The coding form is divided into six squares, each consisting of four rows and six columns. Each row represents 15 seconds (a 10-second observation interval followed by 5 seconds for recording). Each student is assigned to one of the six columns and his or her behavior is recorded in that column throughout the observation session. Each square is divided in half by a thick gray line. First, behavior of students assigned to columns on the left side of the line is recorded for 4 intervals (1 minute). Next, behavior of students assigned to columns on the right side of the line is recorded for 4 intervals. The process is repeated for each square on the page, working from left to right down the page, until 5 minutes before the session ends.

Number of intervals each student was recorded as on-task, off-task/distracted, and off-task/absent will be determined. Percent of time during the session spent on-
task, off-task/distracted, and off-task/absent will be calculated in the following manner:

\[
\% \text{ On-task} = \frac{\text{Number ON}}{\text{Number ON} + \text{Number OFF}}
\]

\[
\% \text{ Off-Task/distracted} = \frac{\text{Number OFF}}{\text{Number ON} + \text{Number OFF}}
\]

\[
\% \text{ Off-Task/absent} = \frac{\text{Number ABS}}{\text{Number ON} + \text{Number OFF} + \text{Number ABS}}
\]

Determining Number of Academic Responses and Marking for Accuracy. An academic response is defined as an answer, or part of an answer, that can be evaluated as correct or incorrect, independent of other answers. An answer should be counted as an academic response only if it reflects a genuine attempt to respond correctly to a problem or question. For example, if a student writes, "I don't know" as his or her answer to a problem or question it should not be counted as an academic response. Review photocopies of homework and enclose each academic response in parentheses. Next, evaluate each academic response as correct or incorrect by using a red pen to mark incorrect responses with an "X". When an assignment or question requires a student to produce a written passage that is creative or opinion-based, one response is recorded for each sentence that includes at least one subject and one predicate. Responses of this type should be scored incorrect only if they are inconsistent with the instructions or the intent of the question. If you are unsure of the accuracy of a student's response, utilize the resources available in the office (e.g. calculator, grammar handbook, dictionary) or in the Louisiana State University Curriculum Library (e.g. grade level textbooks, encyclopedias).

Calculating Accuracy. Accuracy of each assignment completed by a student on a given day is to be calculated separately. Accuracy for an individual assignment is calculated by dividing number of unmarked responses by number marked plus number unmarked and multiplying by 100. After accuracy for each individual assignment is calculated average accuracy for the day is determined. This is done by summing accuracy for each individual assignment and dividing by the number of assignments completed by the student that day. Some answer categories and assignments consistently will be excluded from accuracy calculations. For example, assignments or items
that have very low accuracy demands (e.g. writing spelling words repeatedly) or cannot be scored for accuracy (e.g. obtaining a newspaper story that reflected a current event) should be excluded from accuracy averages.

Calculating Academic Response Rate. Academic response rate for each assignment completed by a student on a given day is to be calculated separately. This is done by counting the number of responses marked on each assignment and dividing by the number of minutes the student spent working on that assignment. During baseline phases, number of minutes spent working on an assignment is derived from Homework Session Monitoring Forms. During intervention phases, number of minutes spent working on an assignment is derived from Goal Setting Worksheets. After response rate for each individual assignment is calculated, average academic response rate for the day is determined. This is done by summing the response rate for each individual assignments completed by the student and dividing by the number of assignments completed by the student that day.
Appendix H

Consent Form

The purpose of this study is to train students in procedures aimed at improving homework performance. If you decide to participate, you will be interviewed and asked to complete a questionnaire about your child’s homework behavior. A brief assessment of your child’s academic skills will be conducted. Throughout the study, your child will be required to work on homework during a 60-minute, after-school homework session. During sessions, your child will be observed by trained undergraduate research assistants. All work your child completes during sessions will be photocopied and retained by the experimenter. You and your child will receive instruction in procedures aimed at improving homework performance. Participation will last approximately six to eight weeks.

All information collected in this study will be confidential and used for research purposes only. You may withdraw your child from the study at any time, but we hope you will participate until the study is concluded.

Please check the following statement and sign below if you decide to participate.

I voluntarily give permission for my child to participate in this study.

Signature_________________________ Date___________

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Appendix I

Demographic Questionnaire

Please provide the following background information

1. Your Age___ and Gender___

2. Child’s Age___, Date of Birth____, Gender____

3. Race: White__ Black__ Hispanic__ Asian__ Other__

4. Your Marital status:
   Never married__ Married__ Separated__ Divorced__

5. Please list the members of your household.
   First Name   Relationship to you   Age   Sex
   __________________________________________
   __________________________________________
   __________________________________________

6. What is the highest level of education completed by:
   Yourself
   ___Less than 7th grade
   ___Junior high school
   ___Partial high school
   ___High school graduate
   ___Partial college or specialized training
   ___Standard college or University graduate
   ___Graduate professional training

   Your Spouse
   ___Less than 7th grade
   ___Junior high school
   ___Partial high school
   ___High school graduate
   ___Partial college or specialized training
   ___Standard college or University graduate
   ___Graduate professional training

7. What is the combine total annual income of all the people living in your household now?
   __$less than 5,000  __$20,000 - 24,999
   __$5,000 - 9,999  __$25,000 - 29,999
   __$10,000 - 14,999 __$30,000 - 34,999
   __$15,000 - 19,999 __$35,000 - 49,999
   __$20,000 - 24,999 __$50,000 and above

8. What is your occupation?____________________
   Your spouse’s occupation?__________________

9. Have you ever sought psychological/mental health services for yourself?____ your child?____
   If yes, please describe______________________
Appendix J

Homework Intake Questionnaire

1. When did your child begin to regularly receive homework assignments? K 1 2 3 4 5 6

2. What types of assignments were given at that time?

3. When did homework first present problems to your child? K 1 2 3 4 5 6

4. How did those problems come to your attention?

5. What was the nature of those problems?

6. How many nights per week is your child currently receiving homework assignments? 0 1 2 3 4 5+

7. In what subjects does your child receive homework and how often for each?

8. Please rank your child's homework assignments in terms of difficulty.

   What is your child's most difficult homework subject?

   What is the next most difficult subject? The next? Etc.?

   Would your child agree with these rankings?

9. Please describe your child's typical homework routine.

   Where?

   Who else is present?

   When?

   How long?

10. How involved are you and your spouse with homework?

11. Do you check your child's homework assignments?

12. Is there family conflict over homework?
14. Does your child’s teacher complain about poor homework completion or accuracy?

15. What is your child’s teacher’s policy regarding homework?

16. How often is graded homework sent home?

17. Does your child forget to bring home important materials necessary for the completion of homework?
   If so, what?

18. Does your child like school?

19. Does your child like homework?

20. Does your child exhibit any other behavior problems?
    At school?
    Conduct grades?
    At home?

21. What, if any, discipline methods are used at home in relation to homework?
Appendix K

Parent Participation Contract

As a participant in the homework study, I understand that my child will be provided with the following:

1. A 60-minute, after-school homework session each school day between (date) and (date). I understand that all sessions will be monitored by undergraduate research assistants.

2. Training in an intervention for homework problems.

I want my child, ________________________, to participate in the homework study and agree to comply with the conditions described below:

1. My child will miss no more than 2 homework session per week unless he or she is ill.

2. I understand that some parent involvement will be required after my child is trained in the homework intervention. I agree to participate in the intervention and comply with intervention procedures to the best of my ability.

Parent Signature

Experimenter Signature
Appendix L

Student Participation Contract

I want to participate in the homework study and agree to the following:

1. I have been given a copy of the homework session rules and promise to follow these rules during all homework sessions I attend.

2. I promise not to miss more than 2 homework session a week, unless I am sick.

3. I understand that later, I will be taught some new techniques to use when I do my homework. I promise to try the things I am taught and do my best to use them correctly.

__________________________  _______________________
Student Signature          Experimenter Signature
Appendix M

Assignment Monitoring Form

<table>
<thead>
<tr>
<th>Describe Assignment</th>
<th>Start Time</th>
<th>Finish Time</th>
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Appendix N

Goal Setting Handout for Parents and Students

HOMEWORK AND GOAL SETTING

What is Goal Setting?

When a work assignment or large project is broken down into several smaller jobs to be completed one at a time, a person is setting goals. Homework assignments are an example of something that can be broken down in this way.

Example: Sally has homework assignments in spelling, math, and social studies. Her first goal might be to copy her spelling words twice each within 5 minutes. A second goal might be to do the first 6 problems on a math work sheet within 5 minutes. A third goal might be to finish the remaining 10 problems on her math worksheet in 8 minutes. Sally could also break down her social studies assignment in a similar manner.

Why Set Goals?

Goal setting helps students learn to organize their work and use their time efficiently. Also, meeting goals successfully can increase students’ academic achievement, self-worth, and interest in schoolwork.

How to Set Goals:

1. **State Goals in Terms of Time and Performance Requirements.**

   When setting a homework goal, decide on the number of problems to be completed (or pages to be read, etc.) and a time limit for completion. Goals should be at least 5 minutes.

   **Examples:**
   (1) Solve 10 math problems - 7 minutes
   (2) Answer 8 history questions - 10 minutes
   (3) Define 12 vocabulary words - 9 minutes
   (4) Read science pages 14-15 - 5 minutes

2. **Set Reasonable Goals.**

   Goals should be challenging (not too hard or too easy). Try to choose a time limit that you can meet, without much time left over, if you work hard. If
you're not sure how much time to give yourself, see how long it takes to solve one problem (or answer one question, etc.). Use the information to set a time limit for solving several problems.

Example: If it takes 2 minutes to answer one social studies question, give yourself 10 minutes to answer 5 questions.

As you get used to using the goal setting procedures, you should be able to set longer goals that include more problems.

3. Write Your Goal Down.

Record your goal in writing on a Goal Setting Worksheet. Write down the number of items to be completed and the time limit you have decided on.

4. Use a Stopwatch.

Use a stopwatch to time yourself while you’re working. After you write down your goal, start the stopwatch and begin working immediately. Stop the stopwatch as soon as you finish all the problems in your goal or as soon as you notice the time limit has passed.

5. Evaluate Whether the Goal was Met.

Right after you stop the stopwatch, record the time shown on the Goal Setting Worksheet. Decide whether or not you met your goal and circle yes or no on your Goal Setting Worksheet. If you didn’t meet your goal take a second to think about why. Was the goal too hard? If so, give yourself a little more time in the next goal. Did you get distracted or waste time? If so, try to be more focused during the next goal. If you did meet your goal, give yourself a pat on the back. You’re working hard and getting your homework done efficiently.


If you met the previous goal, set a new goal. If some problems from the last goal were not met, include them in the new goal. Keep setting goals until you have finished the assignment. When your first assignment is done, use goal setting with your
next assignment and so on until all your homework is finished.

7. **Goal Setting and Studying.**

You can also use goal setting when you’re studying for a test or quiz.

**Examples:**

1. Review science notes - 8 minutes
2. Work 1 problem from each section in math chapter - 15 minutes
3. Memorize the definitions of 5 vocabulary words - 7 minutes.
4. Write the names of the first 20 US Presidents - 5 minutes.

**SUMMARY OF GOAL SETTING STEPS.**

1. Decide on a goal. Include number of items to be completed and a time limit.
2. Write the goal down.
3. Start the stopwatch and begin working
4. Stop the stopwatch when you finish or when the time limit has passed.
5. Evaluate whether or not you met your goal.
6. Set another goal.
Appendix 0

Contingency Contracting Handout for Parents and Students

HOMEWORK AND CONTINGENCY CONTRACTING

What is Contingency Contracting?

A contingency contract is an agreement between two or more people that is understandable and acceptable to everyone involved. Contingency contracts describe what types of behaviors people must display to earn certain rewards. With respect to homework, contracts will specify a reward that can be earned if a certain percent of homework goals are met.

How to Contract:

1. Describe the expected behavior specifically.

   Unspecific:  Jeff should do a good job on his homework.

   Specific:    Jeff spend at least 45 minutes working on goals during the homework session and meet at least 80% of his goals.

   Unspecific:  Mary should work hard during the homework session.

   Specific:    Mary should work on homework goals for at least 50 minutes and meet at least 85% of her goals.

2. Determine rewards.

   Daily rewards should be provided when the student exhibits the behavior described in the contract. Rewards should be things available to the student that parents are willing to provide only if the student meets the requirements of the contract. For adolescents, everyday activities often make very motivating rewards.

   Examples:  (a) Talking on the telephone
              (b) Spending time with friends
              (c) Watching television
              (d) Listening to music

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(e) Using the car  
(f) Playing video/computer games  
(g) A special snack  
(h) Playing basketball  
(i) Reading magazines  
(j) Slightly later curfew  
(k) Slightly later bedtime

3. Negotiate the contract.

Parents and students should work together to decide what the requirements of the contract will be and identify a motivating reward.

4. Practice good communication.

When negotiating the contract, parents and students should use communication behaviors that help rather than interfere with the negotiation process. These behaviors include:

(a) Listen carefully.  
(b) Stay on the topic  
(c) Offer alternatives  
(d) Avoid criticizing  
(e) Repeat what the other person has said to avoid misunderstandings.  
(f) Be willing to compromise

5. Write down the agreement.

Record the negotiated agreement in writing so that there is no confusion about what was agreed upon. Be sure to write the contract so that everyone can understand it. It may be helpful to have both the parent and student explain what the contract means. In this way, any misperceptions about the contract can be corrected.

6. Be consistent.

Contracting will not be effective unless earned rewards are always provided. Parents should praise the student for meeting goals and improving homework performance. On days that a reward is not earned parents should resist the temptation to give in or give extra chances. However, parents should not criticize the student when rewards are not earned.
7. Renegotiate the contract.

If the student's performance improves (e.g. rewards were earned most days), the contract can be made slightly more difficult. If a previous contract appeared too difficult (e.g. rewards usually were not earned) make the next one a little easier. Also, changing the reward from week to week may help the student stay motivated.
Appendix P

Goal Setting Worksheet

<table>
<thead>
<tr>
<th>Goal (Be Specific)</th>
<th>Time Limit</th>
<th>Time Needed</th>
<th>Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes/No</td>
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<td>Yes/No</td>
</tr>
</tbody>
</table>

Percent of goals met __________
(Number of goals met divided by number of goals set)

Total number of minutes spent working on goals __________
Appendix Q

Goal Setting Checklist

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>Goal is written on the goal setting worksheet.</td>
</tr>
<tr>
<td>2.</td>
<td>Number of items to complete and time limit are recorded.</td>
</tr>
<tr>
<td>3.</td>
<td>Stopwatch is started.</td>
</tr>
<tr>
<td>4.</td>
<td>Student begins working immediately after stopwatch is started.</td>
</tr>
<tr>
<td>5.</td>
<td>Student stops working immediately after the stopwatch is stopped</td>
</tr>
<tr>
<td>6.</td>
<td>Student correctly records amount of time needed to complete goal.</td>
</tr>
<tr>
<td>7.</td>
<td>Goal is evaluated correctly.</td>
</tr>
<tr>
<td>8.</td>
<td>If goal is not met, incomplete portions are incorporated into the next goal.</td>
</tr>
</tbody>
</table>
Appendix R

Homework Goal Setting Contract

On "Reward Days" (student’s name) will be allowed to (identified reward) if he/she spends at least minutes working on goals and meet at least 80% of the goals on his/her goal setting worksheet.

If it is a "Reward Day" and (student’s name) does not spend at least minutes working on goals and does not meet at least 80% of his/her goals, he/she will not be allowed to (identified reward) that day.

On days that are not "Reward Days", (student’s name) will be allowed to (identified reward) whether or not he/she spends minutes working on goals or meets 80% of his/her homework goals.

_________________________  ________________________
Student Signature          Parent Signature
Appendix S

Goal Setting Parent Note

Name____________________ Date__________________

GOAL SETTING + REWARDS
Number of Goals Set_____
Number of Goals Met_____ percent of Goals Met_____
Total Minutes Working on Goals_____

GOAL SETTING ONLY

Signature of Monitor
Vita

Alice Kahle was born September 10, 1968 in Memphis, Tennessee. Her childhood was spent in rural Oklahoma. She received her early education from Peckham Elementary School and graduated from Newkirk High School in 1986. In 1990, she was awarded a B.S. in psychology from Oklahoma State University and entered a doctoral program in clinical psychology at Louisiana State University later that year. In 1993, she was awarded an M.A. in psychology from Louisiana State University.

Currently, Ms. Kahle is completing her internship in clinical psychology at the University of Miami Mailman Center for Child Development. After completing her internship, she plans to relocate to Fort Worth, Texas and pursue a position in clinical child or pediatric psychology.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Alice L. Kahle

Major Field: Psychology

Title of Dissertation: Homework Performance in Middle and High School Students: A Comparison of the Effects of Goal Setting With and Without Contingent Rewards

Approved:

[Signatures]

Major Professor and Chairman
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

6-3-96

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