

Increasing Homework Return
Through Extrinsic Rewards

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Increasing Homework Return
Through Extrinsic Rewards

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ABSTRACT

There was a need at Jefferson-Lincoln Elementary School to improve reading homework return. After conducting a review of selected literature, the researcher hypothesized that students could be motivated to turn in more homework when given an extrinsic reward. The researcher then conducted an eight-week study to test this hypothesis. During the first four weeks, the researcher collected reading homework and documented which students returned homework. For the next four weeks, the researcher collected homework, documented which students returned homework, and then rewarded them with a small toy. At the end of the study, the researcher analyzed the data and concluded that the hypothesis was supported.

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CHAPTER 1

Introduction

Background for the Project

Homework was an integral part of the public school system for many years. Proponents of homework believed that it served an important role in the educational process. Some fundamental purposes of homework were to give students a chance to review the material covered in class, to prepare students for the next day's lesson, to allow time to look at topics more fully than what was provided in the classroom, and to help students build self-discipline and responsibility (Paulu, 1998).

Numerous studies showed that homework, when used properly, was an effective method for improving educational learning goals. A variety of original research studies, which included surveys, interviews, and literature reviews, concluded that there was a positive correlation between homework and higher levels of student achievement (Simplicio, 2005).

Jefferson-Lincoln Elementary School (JLES), a building with a high poverty rate, strived for students to achieve 100% homework return. However, there were a number of students that did not return an acceptable percentage of reading homework. As part of the Success For All reading program, students were expected to read a book of choice for 20 minutes as their homework assignment. After the child read their book, they had to have an adult sign a form. On the back of the parent signature form, was a practice page

that was worked on all week and turned in on Friday. The assignment on the back of the parent signature form was a direct review of the concepts taught in class.

The faculty at Jefferson-Lincoln Elementary (JLES) believed in the importance of homework, especially with the high demand for accountability put in place by the 2001 No Child Left Behind (NCLB) legislation. Since JLES was a Title I school it was especially important that students continued to make academic growth so the school could make adequate yearly progress (AYP) as outline by NCLB. Adequate yearly progress was needed to maintain federal funding.

The use of extrinsic motivation to improve classroom performance was common across all levels of the educational spectrum for many years. When classroom activities, whether in-school activities or homework, became uninteresting or tedious, rewards such as stickers, candy, free time, and small toys were given to encourage student involvement. Some teachers opted to motivate students by implementing a negative reinforcement, such as the loss of a recess.

The use of extrinsic motivation to improve student involvement was under much speculation. Some researchers stated that students would only succeed when they were intrinsically motivated, while others, such as Richard M. Ryan (2001), Edward L. Deci (2000), Judy Cameron (1994), and W. David Pierce (1994), concluded that extrinsic motivation could be used effectively in educational or other applied settings without undermining intrinsic motivation.

Statement of the Problem

There was a need at Jefferson-Lincoln Elementary School to improve reading homework return. Many students at JLES did not return their reading homework on a regular basis. It was expected that students return homework 95-100% of the time. Students who were not motivated to complete and turn in homework did not build the organizational skills needed to be successful, nor did they get the practice needed to understand reading concepts and eventually pass the Washington Assessment of Student Learning.

Purpose of the Study

The purpose of this study was to examine the effectiveness of extrinsic motivation in improving reading homework return. Students who turned in reading homework had a better chance of establishing organizational skills and understanding reading concepts introduced in class.

Delimitations

This project included 19 students from Jefferson-Lincoln Elementary School, a building in the Centralia School District, during the 2007-2008 school year. Student demographic information for this building identified 410 students enrolled in 2006. Of these 410 students, 52.9% were male and 47.1% were female. This student population consisted of 0.7% American Indian/Alaskan Native, 1.0% Asian, 1.0% black, 19.0% Hispanic, and 68.5% White. In May 2006 it was calculated that 75.9% of this student population qualified for free or reduced-price meals (Washington State Report Card, 2007).

The 19 students involved in this study were placed in a 2.1 reading level classroom. This sample included seven, second grade students and 12 third grade students. A third year, general education teacher using Open Court reading curriculum with Success For All instructional strategies, instructed the students. During the final four weeks of the study, the teacher motivated students to turn in reading homework each day by allowing them to draw an inexpensive toy from a classroom treasure box.

Assumptions

For the purpose of this study, the following assumptions were made:

1. Homework assignments reflected classroom instruction.
2. Homework assignments were appropriate.
3. All parents and students understood homework return expectations.

Hypothesis

Students who were extrinsically motivated through positive reinforcement would turn in a higher percentage of reading homework than students who were not extrinsically motivated through positive reinforcement. By improving homework return, students would work to build organizational skills and would receive additional practice of the reading skills needed to be successful.

Significance of the Project

The purpose of this project was to provide a factual base of information regarding the effect of extrinsic motivation on reading homework return. Prior to the treatment, only three students turned in homework 94% of the time. Six students turned in

homework 88% of the time, while five students returned homework 81% of the time.

The remaining students returned homework less than 80% of the time. As a result, classroom teachers often turned to forms of external motivation to get students to turn in homework.

Procedure

For the purpose of this project, the following procedures were implemented:

1. In June 2007 the researcher received verbal permission from the building principal to conduct the research project.
2. On September 17, 2007 the researcher explained homework expectations to the reading class. A letter was also sent home to parents outlining homework expectations.
3. For the first four weeks of reading class, students were assigned reading homework Monday through Thursday, which was to be turned in by 9:30 each morning. Records were kept to document the number of assignments returned by each student. This was considered the pre-test.
4. For the weeks five through eight students were assigned homework Monday through Thursday, which was to be returned each morning. Students that returned their math homework by 9:30 each morning were rewarded with a small toy from the treasure box. Records were kept to document the number of assignments returned by each student. This was considered the post-test.

5. The data from the pre-test and post-test were compiled.

Definition of Terms

For the purpose of this study, the following words were defined:

adequate yearly progress. Adequate yearly progress was the minimum level of improvement that school districts and students had to achieve each year in specified academic areas.

extrinsic motivation. Extrinsic motivation referred to a student's involvement in an activity in order to obtain some sort of external reward.

homework. Homework referred to the amount of time students spent outside the classroom engaged in assigned activities.

intrinsic motivation. Intrinsic motivation referred to a student's involvement in an activity for personal reasons.

No Child Left Behind Legislation. The No Child Left Behind Legislation was a reauthorization of the Elementary and Secondary Education Act (ESEA) of 1965.

President George W. Bush signed No Child Left Behind into law in 2002.

parent involvement. Parent involvement was defined as the active, ongoing participation of a parent or primary caregiver in the education of his or her child (Meeting the Challenge of Involving Parents, 2005).

student motivation. Student motivation referred to a student's desire to participate in the learning process.

Washington Assessment of Student Learning. The Washington Assessment of Student Learning was a standards-based assessment used in the state of Washington to measure Adequate Yearly Progress.

Acronyms

AYP. Adequate Yearly Progress

ESEA. Elementary and Secondary Education Act

JLES. Jefferson-Lincoln Elementary School

NCLB. No Child Left Behind

NEA. National Education Association

PTA. Parent Teacher Association

WASL. Washington Assessment of Student Learning

CHAPTER 2

Review of Selected Literature

Introduction

This chapter was organized around the following topics: (a) high stakes testing, (b) homework and student achievement, (c) parental involvement and student achievement, (d) intrinsic motivation versus extrinsic motivation, and (e) summary. The review of selected literature provided the researcher with background information about improving homework return through extrinsic motivation.

High Stakes Testing

The public school system was under much scrutiny during the past twenty years. Many educators believed that too many children were being left behind in public schools, and therefore, were not achieving necessary skills needed for the world beyond the classroom. As a result, President George W. Bush signed the No Child Left Behind Act (NCLB) of 2001 into law on January 8, 2002. This act was a reauthorization of the Elementary and Secondary Education Act (ESEA) of 1965. No Child Left Behind provided a framework to help guide and improve the performance of America's elementary and secondary schools while at the same time ensuring that children did not continue to be educated by failing schools. President Bush called for a "bipartisan solutions based on accountability, choice, and flexibility in Federal education programs" (Executive Summary, 2004). The NCLB Act provided a number of measures to be taken by public schools. The goal of these measures was to hold states and schools

more accountable for student progress and therefore improve student achievement. The first component of NCLB was annual testing that was aligned with academic standards. By the 2005-2006 school year, all states had to annually test students in grades three through eight in reading and mathematics. By 2007-2008 students had to be tested in science at least once in elementary, middle, and high school (No Child Left Behind, 2003).

The next component of NCLB was measurable academic progress. According to NCLB, all states had to have all students meeting proficiency by the 2013-2014 school year. Student populations as a whole, and certain demographic subgroups within individual schools, had to make adequate yearly progress (AYP) (based on a formula identified in the law), toward meeting this proficiency goal. Schools that received Federal Title I funds were not permitted to fail to meet the AYP goal for more than two years in a row. Those Title I schools that did not make AYP were provided technical assistance and the students were offered the choice to attend other public schools. Schools that continually failed to make AYP were subject to “outside corrective measure, including possible governance changes” (No Child Left Behind, 2003).

No Child Left Behind also stated that by the 2002-2003 school year all states had to provide annual report cards documenting the performance of all school districts, including student achievement data broken down by subgroup. Districts had to provide similar report cards to show school-by-school data.

Although NCLB quickly become a controversial debate within the education community, most states did work to meet the goals outlined by this act. In response to NCLB, the state of Washington adjusted the Washington Assessment of Student Learning (WASL), whose concept was first introduced in the early 1990s. The WASL become identified as Washington's test to measure Adequate Yearly Progress, which was required by No Child Left Behind. The WASL tested basic academic skills, such as math computation, as well as more advanced skills, such as comparing and contrasting reading passages. This assessment also required students to display their understanding of concepts in a variety of ways. The WASL included multiple-choice, short-answer, essay, and problem solving tasks.

By 2007, students in Washington's public schools had to take the reading and math WASL in grades three through eight. Fifth and eighth grade students were required to take the science portion of the WASL, while fourth and seventh grade students had to take the writing section. Tenth grade students in Washington had to take all four sections of the WASL, which became a graduation requirement for students that graduated in 2008 and beyond (Washington Assessment of Student Learning, 2007). This previous expectation was, however, amended in 2007. According to the amendment, the math section of the WASL was postponed as a graduation requirement.

While No Child Left Behind, and even the WASL, became highly debated topics, many did believe in the requirements put forth by NCLB. Some educators and policymakers questioned the feasibility and fairness of the goals and time frames of

NCLB, but supported the idea of greater accountability (No Child Left Behind, n.d.).

The educational leaders that signed the article *Don't Turn Back the Clock* greatly supported the accountability provisions of NCLB. They realized that the law wasn't perfect, but rather was "a huge step forward in the movement toward full participation in American democracy" (Don't Turn Back the Clock, 2003).

Homework and Student Achievement

Many schools around the country assigned daily homework for their students. While homework was a common trend among public schools, some questioned it. Most school districts chose to assign homework because they believed it would improve student achievement, which was a major concern with the high accountability demand put in place by NCLB.

Homework was defined as the time students spent outside the classroom engaged in assigned activities intended to provide practice, reinforce or apply newly acquired skills and knowledge, and to learn necessary self-sufficient study skills (Butler, 1987). This time spent outside of the classroom was shown to have several positive effects on student learning. Homework provided additional practice for students. Homework enabled teachers to better track student progress, and allowed teachers and students to move more quickly through the curriculum. Homework also proved to be an effective way to increase student responsibility and individual accountability, as well as, led to increased communication between schools and parents. Finally, homework demonstrated to parents that schools had high expectations for students (Butler, 1987).

Researchers, such as Harris Cooper (2001) and Carol Huntsinger (2001), indicated that schools that assigned homework on a regular basis tended to have higher achieving students. In fact, giving homework on a routine basis increased student achievement and improved attitudes toward learning (Butler, 1987). According to Tom Loveless (2003), author of *The Brown Center Report on American Education*, research showed that homework was positively associated with student learning. Studies found that homework had a positive impact on student achievement for both middle and high school students, and a neutral impact on students in elementary school (Loveless, 2003).

Harris Cooper (2006), a prominent researcher of the effectiveness of homework, cited studies in which students with many similarities were compared. One group of students was assigned homework, while the other was not. The conductors of these studies found that second grade students that were assigned homework achieved higher on class tests. Cooper (2006) noted 12 less restrictive studies that controlled only some factors that might influence homework and achievement. The researchers of these studies also found a positive relationship between time spent on homework and achievement. Cooper (2006) discussed 35 studies in which no control over student differences was attempted. Researchers concluded that seventy-seven percent of these studies found a positive link between homework and achievement. However, these results suggested little or no relationship between homework and achievement for elementary students (Cooper, 2006). Cooper attempted to explain the previous

conclusion by stating, “younger children have less developed study habits and are less able to tune out distractions at home” (Cooper, 2006).

According to Carol Huntsinger (1999), a four-year longitudinal study of 80 families (40 Chinese-American, 40 European-American) indicated that children in preschool and primary grades greatly benefited from homework. Huntsinger (1999) noted, “children who did considerable homework were more academically competent than, and as psychologically well adjusted as, children who did little or no homework in the early grades” (Cooper & Huntsinger, 1999).

Despite these positive findings on homework, there were a number of articles and other accusations that stated students were overwhelmed with homework and that homework didn't help student achievement. However, Tom Loveless's (2003) *The Brown Center Report on American Education* clearly disputed these beliefs. The Brown Board on Education examined the Michigan Study, which was the study most often cited to support that American students were overburdened with homework. After analyzing the Michigan Study, the Brown Board on Education found that the study results were not entirely accurate because the increase in homework time mostly impacted six to eight year old students. However, the authors of the Michigan Study used the increase of homework in this age group to represent the whole student population. In reality, this group of students noticed an increase in homework because they had little or no homework in 1981 compared to when the Michigan Study was conducted in 1997. In reality, the Michigan Study found that the average amount of study time for ages six to

eight rose from 52 minutes a week to two hours and eight minutes, an increase of 76 minutes per week. Based on a seven-day week, this increase equaled about 18 more minutes of homework a week, which was only about 10-11 minutes per day. The change in homework load was minimal in other age groups (Loveless, 2003). When statistically looking at the research, it appeared that the typical student had less than one hour of homework a day.

According to Cooper (1999), all students should do homework. However, “the amount and type of homework students do should depend on their developmental level and the quality of their support at home” (Cooper & Huntsinger, 1999). The National Education Association (NEA) and the National Parent Teacher Association (PTA) stated that homework was most effective for students in grades Kindergarten through second when it did not exceed 10-20 minutes each day. Children in grades three through six could typically handle 30-60 minutes a day. In middle school and high school, the amount of time spent on homework could vary by subject (Help your student get the most out of homework, 2007).

Parental Involvement and Student Achievement

Prior to 1981, little value was placed on the importance of parental involvement and its role on student achievement. In the years that followed, much research was conducted that strongly confirmed that parental involvement enhanced student learning from early childhood through high school (Rosenzweig, 2001). In fact, the research so strongly supported the positive effect of parent involvement on student achievement that

when No Child Left Behind was signed into law, it identified guidelines on how school districts should involve parents (NCLB Rules for Parent Involvement, 2007).

Parent involvement was defined as “the active, ongoing participation of a parent or primary caregiver in the education of his or her child” (Meeting the Challenge of Involving Parents, 2005). While reviewing literature for a meta-analysis, Charlotte Rosenzweig (2001) identified more than 30 different parenting practices related to student achievement and success in school. Rosenzweig (2001) narrowed the 30 parenting styles into the three used in the study: fundamental parenting practices, academic-oriented parenting practices, and school-participation parenting practices. According to Rosenzweig (2001), fundamental parenting practices provided for the child’s general welfare, health, emotional, social, and psychological growth and development. Academic-oriented parenting practices provided for the child’s intellectual growth and development either at home or outside of the home. School-participation parenting practices provided for the child’s academic growth and development by participation in school activities and interaction with school staff.

For the study, Rosenzweig defined school success primarily by students’ grades, grade point average, and standardized achievement test scores (Rosenzweig, 2001). Based on the previous definition and study, Rosenzweig concluded that parent engagement was positively correlated with student achievement. The parent involvement activities that were most highly linked to student success included monitoring school progress, knowing the child’s whereabouts, showing the child that school was important

to the parent, awareness of peer and social contacts, and being interested in and dedicated to the child. On the other hand, parents that were disengaged tended to have students that were lower achieving. Rosenzweig also found that parents that had high grade expectations, such as expecting As and Bs, tended to have higher achieving students than parents that accepted C grades or lower (Rosenzweig, 2001).

Anne T. Henderson and Karen L. Mapp (2002), authors of *A New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement*, examined 51 recent studies on the effects of parent involvement on student achievement. Based on these studies, Henderson and Mapp concluded that “taken as a whole, these studies found a positive and convincing relationship between family involvement and benefits for students, including improved academic achievement” (Henderson & Mapp, 2002).

When Henderson and Mapp (2002) reviewed the 51 studies, they found that students with successful parental involvement had higher grade point averages, higher scores on standardized tests, enrolled in more challenging academic programs, passed more classes with more credits earned, had better attendance, had improved behavior at home and at school, and had better social skills and adaptation to school (Henderson & Mapp, 2002). The key to Henderson and Mapp’s findings was that schools offered programs and interventions that engaged families in supporting their child’s learning.

As a reflection of the research that indicated positive impacts of parental involvement in schools, policy makers outlined parental involvement expectations for

schools to follow under the No Child Left Behind Act. The NCLB act identified nine rules for schools to follow in order to establish parental involvement:

1. work with parents to develop a written parent-involvement policy,
2. hold a yearly meeting to inform parents of their rights to be involved,
3. include strategies for parent involvement in school-improvement plans,
4. spend 1% of their budget engaging families,
5. inform parents, in a language they understand, about the progress of their children and what they can do to help,
6. notify parents if a teacher does not meet the federal definition of highly qualified,
7. distribute an annual report based on the performance of the school,
8. inform parents if a school is low-performing and provide options to transfer to a better-performing school and free tutoring the following year, and
9. spread information about effective parental involvement strategies and assist schools that have insufficient parent-involvement programs (NCLB Rules for Parent Involvement, 2007).

Based on the previously analyzed studies, the need for strong parental involvement was apparent in the academic success of students. By using the nine formerly mentioned steps, schools such as Jefferson-Lincoln Elementary School would be able to incorporate more parental involvement into the overall functioning of the school, and in turn improve student homework return and therefore student achievement.

Intrinsic Motivation Versus Extrinsic Motivation

Considerable research was conducted in the last 20 years on the use of extrinsic rewards and how they affected intrinsic motivation. Researchers debated whether or not rewards undermined intrinsic motivation. Student motivation referred to a student's desire to participate in the learning process. Motivation also addressed the reasons or goals that caused student involvement or noninvolvement in academic activities. While students could be equally motivated to perform a task, their sources of motivation may differ. A student who was intrinsically motivated engaged in the activity for personal reasons; they did the activity for the "inherent satisfactions rather than for some separable consequence" (Ryan & Deci, 2000). The student may have found enjoyment in the activity, desired the learning the activity permitted, or strived for the sense of accomplishment the activity evoked. An extrinsically motivated student may perform the task in order to obtain some sort of external reward, such as a grade, sticker, or other tangible object, or to avoid some sort of punishment (Lumsden, 1994).

The use of rewards as extrinsic motivation was believed by some to actually impair student performance by becoming negative reinforcers, especially in the long run (Benabou & Tirole, 2003). Many researchers found that giving students' incentives, such as grades, prizes, and even praise, were effective in getting students to perform a task, but performance and interest were maintained only as long as rewards were given. In other words, rewards were said to undermine intrinsic motivation. This idea was based on the view that when students liked what they were doing they experienced feelings of

competence and self-determination. On the other hand, when students were given a reward for performance, they did the activity only to get the reward and had little regard for the intrinsic fulfillment. As a result, students' perceptions of competence and self-determination were said to decrease and motivation to perform the activity declined (Cameron, Banko, & Pierce, 2001).

Alphie Kohn (1993), an opponent of extrinsic motivation, conducted a meta-analysis on the effects of extrinsic rewards on intrinsic motivation. Kohn noted that extrinsic rewards manipulated student behavior through either punishments or rewards. Kohn concluded from his meta-analysis that short-term compliance could be obtained with rewards (Kohn, 1993). According to Kohn, the primary negative effects of rewards were that they supposedly undermined people taking responsibility for motivating themselves.

It was a fundamental belief that incentives promoted effort and performance, and there was much evidence to support that they did (Benabou & Tirole, 2003). In fact, the concept of extrinsic motivation dated back to Ivan Pavlov's work with classical conditioning in the 1890s and early 1900s, and B.F. Skinner's operant conditioning experiments of the 1930s.

While researching the digestive function of dogs, Pavlov found that dogs tended to salivate for food coated with chili powder before the food actually entered the dog's mouth. Pavlov changed the focus of his studies after this finding and conducted a long series of experiments in which he manipulated the stimuli that occurred before the

presentation of food (Ivan Pavlov, n.d.). At first, the dogs salivated when they ate or saw of the food. Before long, the dogs would salivate when Pavlov simply rang the metronome, which he rang whenever he fed the dogs, even if food was not presented. Eventually, the sight of Pavlov entering the room caused the dogs to salivate. Pavlov termed this phenomenon of the dogs salivating at the prospect of food a conditioned reflex. The learning process that caused the dogs to salivate at the sound of the metronome became known as conditioning (A Science Odyssey, n.d).

Burrhus Frederic Skinner modified Pavlov's thinking and identified the system known as operant conditioning. Skinner created a box in which he placed a rat. For the first several days, an automatic dispenser released food into the cage. Soon the rat would go to the tray as soon as it heard the sound of the dispenser. One day, a pedal was set in a raised position in the box, which closed an electric circuit when the rat touched it. When the rat touched the pedal, the food dispenser dropped a piece of food in the tray. Immediately after the rat pressed the pedal and ate the delivered food, it began pressing the pedal more frequently. The behavior was therefore strengthened or reinforced by the single consequence of pushing the lever (A Brief Survey of Operant Behavior, n.d.). In this example, the operant was the behavior prior to the reinforcement, which was the food pellet.

B.F. Skinner's research eventually led to the behavior modification model. According to Dr. C. George Boeree (2006), a member of the Psychology Department at Shippensburg University, behavior modification was used to "extinguish an undesirable

behavior and replace it with a desirable behavior by reinforcement. It has been used on all sorts of psychological problems - addictions, neuroses, shyness, autism, even schizophrenia – and works particularly well with children.” (Boeree, 2006).

A variation of the behavior modification model was the token economy. This method of behavior modification rewarded people with some sort of token, or reinforcer, in order to elicit a certain type of behavior. People, in essence, were extrinsically motivated to exhibit a specific type of behavior. While this technique was primarily used in institutions such as psychiatric hospitals, juvenile halls, and prisons, it was also commonly used in schools (Boeree, 2006).

According to Richard M. Ryan (2000) and Edward L. Deci (2000), prominent researchers of motivation, there were different types of extrinsic motivation. Ryan and Deci stated that it was important for teachers to be aware of these different types of extrinsic motivation because the tasks students were expected to perform in school were not always inherently interesting or enjoyable (Ryan & Deci, 2000). In fact, Ryan and Deci commented that most of the activities people performed were not intrinsically motivated.

After much research, Ryan and Deci (2006) concluded that people moved through a continuum of motivation. As people moved through this continuum, behaviors progressed through the processes of internalization and integration until extrinsically motivated behaviors became more self-determined, or intrinsic.

According to Ryan and Deci (2000), motivation to perform a task in order to obtain an external reward was the least autonomous form of extrinsic motivation. This form of extrinsic motivation was termed external regulation. Motivation to complete a task in order to avoid the feeling of guilt or anxiety or to attain ego-enhancements or pride was labeled introjected regulation. Those who experienced introjected regulation tended to put forth more effort than externally regulated individuals. Integrated regulation was another form of extrinsic motivation and occurred when identified regulations had been fully assimilated to the self. While this seemed to be a form of intrinsic motivation, it was actually extrinsic because the behavior was done for “its presumed instrumental value with respect to some outcome that is separate from the behavior...” (Ryan & Deci, 2000). As people progressed through the continuum of types of external motivation, they became closer to being intrinsically motivated. However, since most tasks were not inherently interesting, many behaviors were initially externally motivated.

Judy Cameron (1994) and W. David Pierce (1994) conducted a meta-analysis that further supported the effectiveness of extrinsic motivation. Cameron and Pierce (1994) compared rewarded subjects to nonrewarded controls and measured intrinsic motivation by differences between the groups on attitude, time spent on task following the removal of the reward (free time), performance during the free-time period, and willingness to volunteer for future studies without reward. Cameron and Pierce concluded that the

implementation of a reward did not negatively impact intrinsic motivation on any of the four previously identified measures (Cameron & Pierce, 1994).

In a single-subject study where rewards were used as reinforcers, Cameron and Pierce found no effect of reinforcement on intrinsic motivation. Cameron and Pierce concluded by stating, “reinforcement does not decrease a person’s intrinsic motivation to engage in an activity” (Cameron & Pierce, 1994, p. 394).

Summary

Due the high accountability demands put in place by No Child Left Behind, schools of the twenty-first century were taking innovative measures to improve student achievement. Various researchers, including Harris Cooper (1999) and Carol Huntsinger (1999), indicated that schools that assigned regular homework tended to have higher achieving students. Based on the work of researchers involved in homework studies, many schools chose to implement routine homework procedures to ensure that students mastered the skills they needed to pass the Washington Assessment of Student Learning. Other researchers, such as Charlotte Rosenzweig (2001), Anne T. Henderson (2002), and Karen L. Mapp (2002) found that parental involvement played another key role in student achievement. In fact, researchers found such strong evidence of the positive effects of parental involvement on student learning that policy makers implemented parental involvement expectations for schools to follow under NCLB.

With the higher academic demands placed in front of students, it became more difficult for teachers to motivate students to learn, and especially to get them to turn in

homework. As a result, many educators turned to a token economy, which was based on the behavior modification model of B.F. Skinner. This method of behavior modification motivated people to accomplish a task by rewarding them with some sort of token, or reinforcer.

CHAPTER 3

Methodology and Treatment of the Data

Introduction

The researcher conducted this project to see if an extrinsic reinforcer, such as an inexpensive toy, would motivate students to return reading homework more frequently. The duration of this study was an eight-week reading class. For the first four weeks of this session, the researcher assigned reading homework and recorded the daily return rate for each student on a Homework Chart. At this time, the researcher did not offer any extrinsic reinforcer to those students that returned homework. For the next four weeks, the researcher assigned reading homework and recorded the daily return rate. Those students that returned homework were allowed to get a toy from a treasure box. At the end of the eight-week session, the researcher organized the data into table, analyzed the data, and then represented the data in the form of various figures.

Methodology

For this study, the researcher used a modified, experimental research method. The researcher used a non-independent sample since the same group of students was observed prior to the treatment and during the treatment. For this specific study, the researcher took a quantitative approach and collected data to determine if extrinsic reinforcers would motivate students to improve their reading homework return. For the pre-treatment group, or control group, homework was assigned, but no reward was given when homework was returned to school on time. The treatment group, or experimental

group, was assigned homework and then given a reward when the homework was returned on time. This data was recorded on a Homework Chart. The researcher later organized the data in the form of a table and then represented outcomes on various figures.

Participants

The researcher used a convenient sample for this study. A reading facilitator analyzed the participants' previous reading scores. The students were placed in the researcher's classroom, which was instructed at a 2.1 reading level. This sample contained 19 students, which was 11 fewer students than a desired sample of 30 students. Of these 19 students, 12 were third graders and seven were second graders. Since the instruction level for this reading class was a 2.1, the 12 third graders were reading a full year below grade level. The seven, second graders were reading at grade level.

The sample used for this study consisted of 12 females and seven males. Seven of the 19 students were Hispanic and 12 of the students were white. Of the seven Hispanic students, one was an English Language Learner due to having lived in the United States less than a year. Four of the other Hispanic students were proficient in both English and Spanish.

Instruments

The only instrument used in this study was a record-keeping instrument called a Homework Chart. The Homework Chart consisted of each student's name down the left

hand side. Next to each name was eight weeks of record keeping data broken down into one-week sections. Under each day of the week were the letters F, B, and M. The F represented a folder, which students were expected to bring to class each day. The B stood for book. This was not a required item on the Homework Chart because students could check out books from the classroom library, if needed. The M represented homework marker (or homework log), which was the students' reading homework and was required for the students to earn a prize from the treasure box. If a student did not have a completed homework log, the researcher drew a slash over the M.

Procedure

1. In June 2007 the researcher received permission from the building principal, Glenn Spinnie, to conduct this study in a reading, general education classroom.
2. The researcher conducted a review of selected literature at the Centralia Timberland Regional Library and via the internet. The researcher was then able to decide on the best research method to carry out this study.
3. On the first day of reading class, in mid September 2007, the researcher provided students with a verbal description of the following homework procedure.

Homework was to be completed Monday through Thursday. Each night students were to read a book of choice for 20 minutes. They could read a book from home, or check out a book from the classroom library. In addition to reading, students were expected to practice specified vocabulary words that went with the story being studied in class. Students were then required to have an adult sign their reading homework log to

prove that they completed their tasks. Throughout the week, students were also expected to gradually work on a page that provided additional practice of reading skills introduced in class. This portion of the assignment was checked throughout the week for progress, but was not due until Friday (or the last day of the week). This homework procedure was also discussed in a parent letter and sent home on the first day of class. Parents were encouraged to contact the teacher if they had any questions regarding the homework routine. The researcher also informed students that if they could not complete a homework assignment at home, they could come to the classroom between 8:00 a.m. and 8:20 a.m. to complete the assignment with the teacher and therefore receive full credit. The intent of this option was to enable students who had little parental support at home to still be accountable for their assignments and get credit for their homework.

4. For the first four weeks of reading class, September 17, 2007 through October 12, 2007, the teacher collected reading homework and recorded the data for each student on a Homework Chart. No extrinsic reinforcer was given at this time.

5. On the first day of the fifth week (a Monday), the researcher explained to the class that they would receive a prize from the treasure box if they returned their completed homework by 9:30 a.m. each day, which was the beginning of reading class. Starting the next day, (Tuesday) students that returned a completed homework assignment were allowed to get a toy from the treasure box. The students that did not return completed homework were not rewarded in any way. Data was collected October 15, 2007 through November 9, 2007.

6. At the end of the eight-week reading cycle, the researcher placed the collected data for each student into a table.

7. The researcher then analyzed the collected data and placed it into various figures to represent the effectiveness of extrinsic reinforcers on student motivation.

Treatment of Data

The researcher used Excel to create a table that contained all the collected data. Next, the researcher found the total number of homework assignments each student returned for the first four weeks of the study. The researcher then totaled the number of homework assignments each student returned for the last four weeks of the study. Based on these calculations the researcher found that all students made at least some improvement in homework return when given an extrinsic reinforcement. This data is shown in Table 1 of Chapter 4. The researcher also demonstrated this data in various figures, which clearly showed the growth made by each student in this study.

Summary

The researcher conducted a modified experimental study to observe if an extrinsic reinforcer would motivate students to return reading homework more frequently. The study lasted a total of eight weeks. For the first four weeks, students returned homework, but were not rewarded in any way. Over the next four weeks, students were allowed to choose a small toy from a treasure box when they returned a homework assignment. At the conclusion of the study, the researcher added up the total number of assignments each child returned the first four weeks and the total number of assignments each child

returned the last four weeks. The researcher was able to look at the total from each four-week increment and determine that every child in the study made at least some growth when they were given an extrinsic reward.

CHAPTER 4

Analysis of the Data

Introduction

The researcher used a modified experimental research method to examine the effectiveness of extrinsic reinforcers on student motivation. Over an eight-week reading session, the researcher assigned homework to a classroom of general education students. For the first four weeks of the study, the researcher assigned homework, but did not reward students when they returned assignments. During weeks five through eight, the researcher attempted to motivate students by allowing them to get an inexpensive toy from a treasure box when they turned in an assignment.

Description of the Environment

This project included 19 students from Jefferson-Lincoln Elementary School, a building in the Centralia School District, during the 2007-2008 school year. Student demographic information for this building identified 410 students enrolled in 2006. Of these 410 students, 52.9% were male and 47.1% were female. This student population consisted of 0.7% American Indian/Alaskan Native, 1.0% Asian, 1.0% black, 19.0% Hispanic, and 68.5% White. In May 2006 it was calculated that 75.9% of this student population qualified for free or reduced-price meals (Washington State Report Card, 2007).

The researcher used a convenient sample for this study. The students were placed in the researcher's classroom based on previous reading scores. The instructional level

for this reading class was 2.1, but the class consisted of both second and third grade students. The seven, second grade students in this class were reading at grade level, while the 12 third grade students were reading about a year below grade level.

For the first four weeks of the study, students were expected to complete reading homework Monday through Thursday. At the beginning of reading class each day, the researcher collected the reading homework and put a mark on the Homework Chart for those students who did not return homework. At this time, no reward was given to students who returned homework.

Over the next four weeks, the researcher assigned and collected reading homework Monday through Thursday. The researcher put a mark on the Homework Chart next to those students who did not return homework. Those students that did return homework were allowed to get a toy from the treasure box.

Hypothesis

Students who were extrinsically motivated through positive reinforcement would turn in a higher percentage of reading homework than students who were not extrinsically motivated through positive reinforcement. By completing and turning in homework, students would work to build organizational skills and would receive additional practice of the reading skills needed to be successful.

Results of the Study

The researcher used Table 1 to represent the data that was collected on the Homework Chart during the eight-week study. There were a total of four homework

assignments per week. Therefore, at the end of each four-week session there were a total of 16 assignments. In the column at the end of each four-week session, the researcher calculated the percentage of assignments returned by each student (Table 1). The pre and post percentages showed that each student made at least some improvement in their homework return during the treatment period. The bottom line on Table 1 showed the average number of assignments returned each week. During the first four weeks of the study, the students returned an average of 3.2 assignments. During the treatment period, students increased the return rate to an average of 3.7 assignments. The researcher found that, as an average, the students made significant gains when extrinsically rewarded. In fact, the researcher calculated that the average gain of assignments during the treatment period was .5 assignments (Table 1).

Table 1

Total Assignments Returned by Each Student

Student	Control Group					Treatment Group				
	Week 1	Week 2	Week 3	Week 4	Total %	Week 5	Week 6	Week 7	Week 8	Total %
S1	3	4	4	4	94%	4	4	4	4	100%
S2	3	3	3	3	75%	3	3	3	4	81%
S3	3	3	4	3	81%	3	3	4	4	88%
S4	4	3	3	3	81%	4	4	4	4	100%
S5	3	4	4	3	88%	4	4	4	4	100%
S6	4	3	4	3	88%	4	3	4	3	88%
S7	3	3	4	4	88%	3	4	4	4	94%
S8	3	4	3	3	81%	4	4	4	4	100%
S9	3	4	4	3	88%	4	4	4	3	94%
S10	3	4	3	4	88%	4	4	4	4	100%
S11	4	2	3	3	75%	4	4	4	4	100%
S12	2	1	1	0	25%	0	1	2	2	31%
S13	4	4	4	3	94%	4	4	4	4	100%
S14	4	3	3	4	88%	4	4	3	4	94%
S15	3	4	3	3	81%	3	4	4	4	94%
S16	4	4	4	3	94%	4	4	4	4	100%
S17	3	2	4	4	81%	4	4	4	4	100%
S18	2	3	3	3	69%	3	4	4	4	94%
S19	3	2	2	3	63%	4	4	3	4	94%
Average	3.2	3.2	3.3	3.1	80%	3.5	3.7	3.7	3.8	92%

Each of the 19 students in the study improved their homework return during the treatment period. The biggest growth was observed among student 19, who improved their homework return rate by 31%. Students 11 and 18 improved their homework return by 25% (Figure 1).

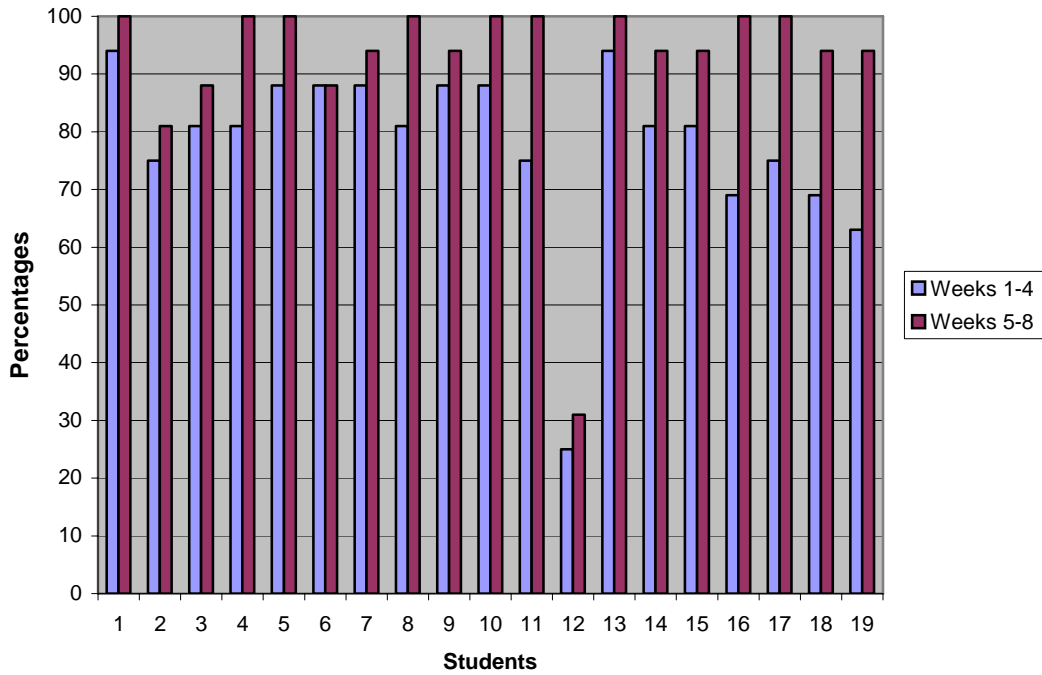


Figure 1: Percentage of Returned Homework for Each Student

Student 11 improved their homework return from 75% during the first four weeks of the study to 100% over the final four weeks. This growth showed that this student was motivated to return homework more frequently when given an extrinsic reward (Figure 2).

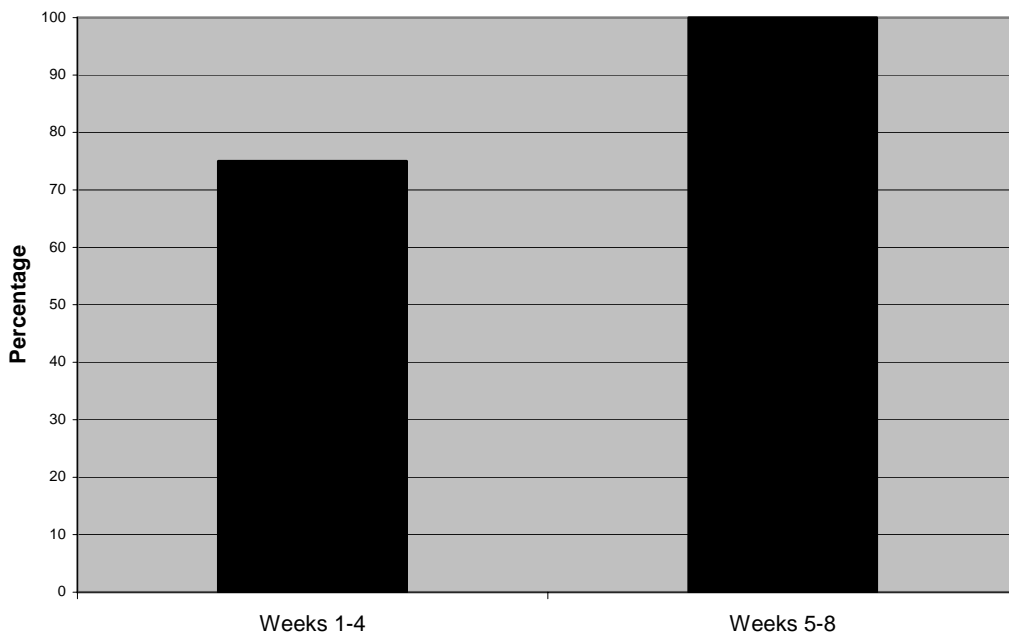


Figure 2: Student 11's Homework Return

Student 19 was also more motivated to return homework when they were given a reward. They improved their homework return from 63% during the first four weeks to 94% during the final four weeks, a growth of 31% (Figure 3).

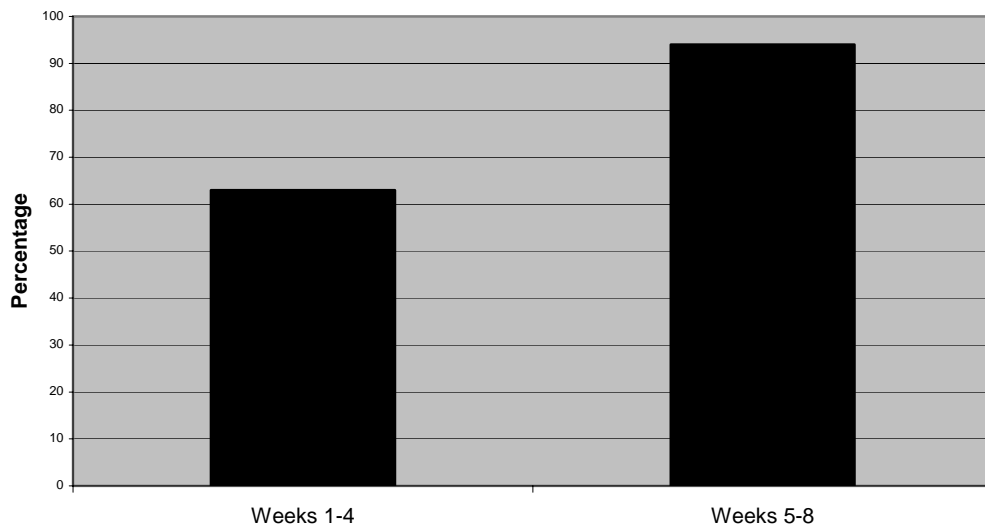


Figure 3: Student 19's Homework Return

Findings

At the conclusion of this study, the researcher found that an extrinsic reinforcer, such as a small toy, did motivate students to turn in more homework assignments. In fact, every student turned in more reading assignments during the treatment period. The average number of assignments returned during the first four weeks of the study was 3.2 assignments. During the treatment period of the study, the average number of assignments returned increased significantly to 3.7 assignments, an average gain of .5 assignments.

While some students improved their homework return by as little as 6% when being rewarded with a small toy, other students improved their homework return by as much as 25% or 31% during the treatment period of the study. Of the eight students that improved their return rate by only 6%, three of them already had a 94% homework return rate prior to the treatment. During the treatment period, they improved their homework return to 100%. Therefore, the hypothesis was supported by the data collected during this study.

Discussion

The researcher found the results of this study to be very comparable to the work done by other researchers on extrinsic motivation. The idea of using an extrinsic motivator, or reinforcer, to elicit a certain behavior dated all the way back to the work done by Ivan Pavlov of the 1890s and early 1900s and B.F Skinner of the 1930s. In fact,

Skinner's behavior modification model was eventually modified to the token economy in which people were rewarded with a token when they exhibited a specific behavior, a technique used in a variety of environments including psychiatric hospitals, juvenile halls, prisons, and schools.

More recent researchers, including Richard M. Ryan (2000) and Edward L. Deci (2000), further supported the effectiveness of extrinsic motivation. Ryan and Deci commented that many of the activities people were expected to perform were not intrinsically motivated. According to Ryan and Deci (2000), people moved through a continuum of motivation that gradually worked from being extrinsically motivated to being intrinsically motivated. Judy Cameron (1994) and W. David Pierce (1994) conducted a meta-analysis that found extrinsic reinforcers to be an effective method in eliciting a certain type of behavior, and found in fact, that receiving a reinforcer did not decrease a person's intrinsic motivation to perform a certain activity.

Summary

By analyzing the results of this study, the researcher was able to conclude that students could be motivated to return higher amounts of homework when given an extrinsic reinforcer, such as a small toy. In fact, the significance in the average gain of .5 assignments during the treatment period of the study proved that giving rewards to improve homework return was a notably effective strategy. While some students returned only one or two more assignments when given a reward others returned as many as four or five additional assignments, which was significant considering the amount of

time allotted for the study. The results of this study were very comparable to the work done by other researchers, including Ivan Pavlov, B.F. Skinner, Richard M. Ryan (2000), Edward L. Deci (2000), Judy Cameron (1994), and W. David Pierce (1994). The results of this study also supported the researcher's hypothesis, which predicted that students would turn in a higher rate of homework when motivated with an extrinsic reinforcer.

CHAPTER 5

Summary, Conclusions and Recommendations

Introduction

The researcher noticed that the majority of students in a reading class were turning in homework less than 90% of the time. The researcher and fellow staff members strived to motivate students to return reading homework 95-100% of the time. At the end of the eight week reading sessions, students that had 100% homework return were rewarded with an ice cream party with the principal. This extrinsic reward, however, was not immediate enough for many students, and so they failed to return 100% homework. The researcher, therefore, questioned if a daily extrinsic reinforcer, such as a small toy, would motivate students to return homework more frequently.

Summary

In June 2007 the researcher asked the building principal for permission to conduct this study in a general education, reading classroom. The principal granted the researcher permission, and the researcher began a review of selected literature on the effectiveness of extrinsic motivation. During the review of literature the researcher was able to find ample evidence to support that an extrinsic reinforcer would motivate students to perform a certain activity, such as return homework. As a result, the researcher formulated a hypothesis that stated that students would return higher amounts of homework when they were extrinsically motivated with a small toy. Over the next eight weeks, the researcher collected data to support this hypothesis.

On the first day of reading class, the researcher verbally outlined the homework expectations for the reading students. The researcher also sent a letter home to the students' parents that clearly explained the homework procedure. For the next four weeks, the researcher collected homework assignments from students and documented which students returned homework each day. The researcher did not provide students with any reward at this time for returning homework. For weeks five through eight, the researcher collected homework, documented which students returned assignments, and then allowed those students that returned homework to get a toy from the treasure box. After the eight-week study, the researcher organized the collected data into a table. After some analysis, the researcher concluded that every student did improve their homework return rate when they were rewarded with a small toy (Table 1).

Conclusions

Based on the data collected during this study, the researcher was able to conclude that students could be extrinsically motivated to return homework more frequently when given an extrinsic reward. The data in Table 1 clearly showed that all 19 students returned more assignments during the four-week treatment period in which they were given a small toy for completed assignments. In fact, the researcher found that the students made an average gain of .5 homework assignments when they were given a reward. This was a significant gain. When teachers find themselves struggling to motivate their students to return homework, they may consider the results of this study

and others, and possibly implement a similar reward system for improving homework return.

There were however, other factors that came into play during this study. Parental involvement was an important role in this study because students had to have parent signatures to get credit for their assignments. For example, Student 12 in the study was known to have little parental support at home, which was reflected in the amount of homework assignments this student returned during the study. The researcher wanted to see if this student would become motivated enough with an extrinsic reinforcer to try and get her parent more involved in the homework process. This outcome, however, was not observed during this study. Student 12 also had the option to complete the assignment each morning with the teacher in order to get credit. The student took advantage of this option for only two out of the nine assignments she returned.

Although all students improved their homework return rate to some degree when they were extrinsically motivated with a small toy, the effectiveness of this strategy did vary among students. Some students, such as Student one, Student 13, and Student 16, did not need as much motivation as the other students in the class because they returned a higher percentage of homework during the first four weeks of the study. During the first four weeks of this study, these three students missed only one assignment. Students one, 13, and 16 were, however, even more motivated to return homework during the treatment period because they improved their homework return from 94% to 100% (Figure 1). Other students, such as Students 11 and 18, improved their homework return by four

assignments, or 25%, during the treatment period. Student 19 improved their homework return by five assignments, or 31%, during the treatment period (Figure 1).

In the end, the researcher was able to conclude that offering an extrinsic reinforcer, such as a small toy, could motivate students to improve their homework return. While this strategy varied in effectiveness among the 19 students in the study, it still proved to motivate all students to improve their homework return to some degree.

Recommendations

Based on the conclusions, the following are recommended:

1. A larger sample of students could be used for a study similar to this.
2. The duration of the study could be longer than eight weeks in order to have a larger pool of data to draw conclusions. During a longer study period, the researcher may choose to take the students off the extrinsic reinforcer after the treatment period to observe if students continued to turn in assignments, or if their return rate declined without the reinforcer.
3. The use of a small toy as an extrinsic reinforcer seemed to be very effective, but can also be very expensive over a long period of time. The use of a less expensive item, such as a piece of candy, may be more cost efficient.

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