Effects of external rewards on elementary students' motivation to read independently

Benjamin David Olsen

University of Northern Iowa

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Effects of external rewards on elementary students' motivation to read independently

Abstract

In an age of increased accountability, even down to how well, and how much, students read independently, teachers are looking for ways to motivate students to read. One popular way schools and teachers have looked to increase motivation is with reading incentive programs. Despite this widespread enthusiasm for such programs there has not been solid, replicable research that has supported the continued use of incentive programs to increase students’ future motivation to read. This study examined how a reading incentive program affected students' motivation and attitudes toward reading and the time they spent reading. Research was guided by the following questions: 1. Is there a relationship between a reading incentive program and motivation to read independently? 2. Is there a relationship between a reading incentive program and student attitude toward reading? 3. Is there a relationship between a reading incentive program and time spent reading independently? Participants included 27 sixth-grade students in suburban elementary school in a small Iowa city. Participants were divided into a control group and an experimental group for the purposes of comparison. Students kept track of the amount of time they spent reading independently for two weeks prior to any incentives. They also completed the Motivation for Reading Questionnaire-Revised (Wigfield & Guthrie, 1997) to measure attitude about and motivation for reading. A four-week treatment period ensued with the experimental group earning rewards for reading certain amounts of time. Incentives were taken away and students again kept track of time spent reading, as well as again completing the Motivation for Reading Questionnaire (MRQ). Compiled data indicated that this reading incentive program did indeed cause students in the treatment group to read more independently, even after incentives were taken away. However, there was little evidence to promote the idea that the incentive program increased motivation to read independently. Significant increases were found in only two sub-categories of the MRQ. Overall data indicated no significant changes for either the experimental or control groups. The information gathered in this study indicated that while a reading incentive program might cause an increase in the time spent reading independently, especially during the time of, and directly after, the incentives were in place, there was little evidence that it caused a great change in internal motivation and attitude.

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EFFECTS OF EXTERNAL REWARDS ON ELEMENTARY STUDENTS' MOTIVATION TO READ INDEPENDENTLY

An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Benjamin David Olsen
University of Northern Iowa
December 2006
ABSTRACT

In an age of increased accountability, even down to how well, and how much, students read independently, teachers are looking for ways to motivate students to read. One popular way schools and teachers have looked to increase motivation is with reading incentive programs. Despite this widespread enthusiasm for such programs there has not been solid, replicable research that has supported the continued use of incentive programs to increase students’ future motivation to read. This study examined how a reading incentive program affected students’ motivation and attitudes toward reading and the time they spent reading.

Research was guided by the following questions:

1. Is there a relationship between a reading incentive programs and motivation to read independently?

2. Is there a relationship between a reading incentive program and student attitude toward reading?

3. Is there a relationship between a reading incentive program and time spent reading independently?

Participants included 27 sixth-grade students in suburban elementary school in a small Iowa city. Participants were divided into a control group and an experimental group for the purposes of comparison. Students kept track of the amount of time they spent reading independently for two weeks prior to any incentives. They also completed the Motivation for Reading Questionnaire-Revised (Wigfield & Guthrie, 1997) to measure attitude about and motivation for reading. A four-week treatment period ensued
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However, there was little evidence to promote the idea that the incentive program increased motivation to read independently. Significant increases were found in only two sub-categories of the MRQ. Overall data indicated no significant changes for either the experimental or control groups. The information gathered in this study indicated that while a reading incentive program might cause an increase in the time spent reading independently, especially during the time of, and directly after, the incentives were in place, there was little evidence that it caused a great change in internal motivation and attitude.
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A Thesis
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Benjamin David Olsen
University of Northern Iowa
December 2006
This study by: Benjamin Olsen

Entitled: EFFECTS OF EXTERNAL REWARDS ON ELEMENTARY STUDENTS' MOTIVATION TO READ INDEPENDENTLY

Has been approved as meeting the thesis requirement for the Degree of Masters of Arts.

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CHAPTER I

INTRODUCTION

Statement of Problem and Importance of Study

In an age of increased accountability, even down to how well, and how much, students read independently, teachers are looking for ways to motivate students to read. One way schools and teachers have looked to increase motivation is with reading incentive programs. These incentive programs have been gaining widespread popularity as a tool to increase students' motivation to read. These incentive programs range from teacher-made, local classroom programs to huge corporation-sponsored programs, such as Pizza Hut’s “Book-It” program. Incentives have included books, food coupons, classroom privileges, and even, in the case of a program called Earning By Learning, cash awards (Gambrell & Marinak, 1997).

Parents and teachers are constantly striving to find ways to motivate children to read (McNinch, 1997). In fact, over the past 20 years research has demonstrated that students’ motivation is a primary concern of many teachers, and numerous classroom teachers acknowledge that motivation is the root of many of the problems they face in educating children today (O’Flahavan, Gambrell, Guthrie, Stahl, & Alverman, 1992). This need has precipitated the use of external motivators for children, especially the reluctant reader. Fantuzzo, Rohrbeck, Hightower, & Work (1991) report that 81% of elementary school teachers they surveyed use incentives in their classrooms to improve reading. Fawson and Moore (1999) later reported an even greater percentage, with 100%
of principals and 95% of teachers reporting the use of some kind of incentive program in
a large school district in the Southwest.

Despite this widespread enthusiasm for such programs there has not been solid,
replicable research supporting the continued use of incentive programs to increase
students' future motivation to read (McNinch, 1997). In fact, there are many studies that
show that motivation is not affected or decreases when extrinsic rewards are given
(Simons, Dewitte, & Lens, 2000). However, little research has looked specifically at
effects of using rewards in a reading program. This study examined how a reading
incentive program affected students' motivation and attitudes toward reading and their
time spent reading.

**Statement of the Problem**

While many educators report the use of rewards for reading in their classroom,
research has not yet proven that this is an effective way to motivate their students.
Research on effects of external rewards on motivation and time spent reading is sparse,
sometimes flawed, and often presents conflicting findings. The purpose of this study is to
examine how a reading incentive program will affect students' motivation to read,
attitude about reading and their time spent reading.

**Research Questions**

The research questions guiding this research were:

1. Is there a relationship between a reading incentive program and time spent
   reading independently?
2. Is there a relationship between a reading incentive program and student attitude toward reading?

3. Is there a relationship between a reading incentive program and motivation to read independently?

**Hypotheses**

The principal researcher proposed three hypotheses for this study:

1. The amount of time students read independently will increase during the period of incentives, but will decrease when incentives are taken away.

2. Students in a low intrinsically motivated group will have the largest increase in minutes of time spent reading independently during and after the introduction of reading incentives.

3. There will be little if any change in intrinsic motivation to read, as measured by the Motivation to Read Questionnaire, after the incentives are taken away.

**Delimitations**

This study was delimited to the following:

1. Subjects were 27 sixth grade students from a K-6 elementary school in a Midwestern state.

2. Prior to any implementation of an incentive program, students were assessed for reading level, attitudes toward reading, and amount of time spent reading independently.

3. Two weeks after treatment, all students were assessed again, using the same measurement tools.
4. The study was conducted for eight weeks during Spring 2006.

5. Data were entered in Excel and analyzed with SPSS Version 11. Statistics included: descriptive, independent t-tests, and paired sample t-tests

Limitations

The study was limited by:

1. The accuracy of participants' responses to the survey.

2. The limited generalizability of the results to all similar age students.

3. Some students not completing the survey or book log, causing some non-response error.

Assumptions

In carrying out the study, several assumptions were made.

1. The instrument used to assess students' attitudes toward reading and the instrument used to measure students' achievement in reading were, in fact, the appropriate instruments.

2. The data obtained from the students were accurate assessments of their performance.

3. Attitudes toward reading can be inferred from a written survey.

Definition of Terms

The following definitions are used in this study:

1. **Motivation**—the concept that is used to describe the forces acting on or within an organism to initiate and direct behavior. It can also explain the differences in intensity of a behavior (Govern & Petri, 2004).

2. **Intrinsic Motivation**—the value or pleasure associated with an activity, as opposed to the goal toward which the activity is directed (Staw, 1976). Intrinsically motivated activities are ones in which there is no apparent reward, except the activity itself (Deci, 1976).

3. **Extrinsic Motivation**—motivation in which the emphasis is on external goals to which the activity is directed (Govern & Petri, 2004).

4. **Motivational Attitude**—the belief a person holds as to why they are motivated to do a particular task.

5. **Independent Reading**—reading that is done in a person's spare time. It is not reading that is assigned, but is usually thought of as pleasurable.

6. **Reading Incentives**—rewards given to students with the hope that they will be more motivated to read independently. Rewards could include reading related items, such as books, or non-reading related objects or activities, such as restaurant food coupon or opportunities for extra free time.

7. **Reading Efficacy**—the belief that one can be successful at reading (Wigfield & Guthrie, 1997).
8. Reading Curiosity—the desire to learn about a particular topic of interest (Wigfield & Guthrie, 1997).

9. Reading Involvement—the enjoyment of experiencing different kinds of literacy or informational texts (Wigfield & Guthrie, 1997).

10. Reading Recognition—the gratification in receiving a tangible form of recognition (Wigfield & Guthrie, 1997).

11. Reading Grades—the desire to be evaluated favorably by the teacher (Wigfield & Guthrie, 1997).

12. Reading Competition—the desire to outperform others in reading (Wigfield & Guthrie, 1997).
CHAPTER II
REVIEW OF RELATED LITERATURE

The purpose of this study was to examine how a reading incentive program will affect students' motivation to read, attitude about reading, and time spent reading. To have a better understanding of reading incentive programs, it is significant to examine motivation as a whole, reading motivation, and reading incentive programs. This chapter will first review what previous research has said about human motivation and what factors affect increases or decreases in motivation. Next, reading motivation will be discussed in-depth to summarize what previous researchers have indicated about reading motivation specifically. Lastly, a summary will be given of positive and negative effects of reading incentive programs used within schools and research studies.

Motivation

Motivation is defined as the concept that is used to describe the forces acting on or within an organism to initiate and direct behavior. It can also explain the differences in intensity of a behavior (Govern & Petri, 2004). It is usually stated that when one is motivated to perform a task, one is more likely to complete that particular task, as well as performing it with more quality. But what causes, or increases motivation in a person? Additionally, why is one person more motivated than another depending on the circumstances? It seems that a different set of factors will change the level of motivation for different people, with motivation increasing for some individuals and decreasing for others, even when the same circumstances are present. Researchers and curious people alike have looked into this idea for centuries.
Govern and Petri (2004) outline eight basic constructs in motivation that are used to determine motivational theory. These constructs include energy, physiological mechanisms, learning, social interaction, cognitive processes, activation of motivation, homeostasis, and hedonism. The first of these constructs postulates that there is some source of energy that drives the behavior. Hunger may drive the food getting process, while water directed behaviors would occur during thirst (Govern & Petri, 2004). This idea ties in closely with the second construct, that of physiological mechanisms. This says that there are some motivational mechanisms that are genetically programmed into the organism. This programming usually takes the form of instinct and learned survival responses.

Researchers have attempted to describe how an organism learns to be motivated through modeling by another. It is believed that this is tied closely with the existence of external motivators for the behavior. Social interaction also seems to play a large role in motivating behaviors. Research in social psychology has pointed to the power of the group in motivating us to conform and to the power of authority figures in motivating us to obey (Govern & Petri, 2004). It is assumed that social situations have a large influence on our behavior because the presence of others alters our motivation.

Cognitive processes are also seen to have an effect on motivation. This deals with how information is taken in and how the brain interprets it. This interpretation will dictate the next behavior. Additionally Attribution Theory emphasizes the role of cognition in the interpretation of others' behaviors and indicates that our behavior will be based on these interpretations (Govern & Petri, 2004).
Another construct of motivation is that of the idea of homeostasis. Theorists have indicated that an organism's main motivation in life is to maintain perfect balance, or homeostasis. When the body deviates too far from this optimal level the brain will respond with behaviors that will bring the body back into balance.

The final construct discussed is that of hedonism. Hedonism assumes that one is motivated by pleasure or pain. This idea would present that one is drawn to situations and activities that give pleasure, or, put plainly, are fun. Consequently, one would also be motivated to avoid circumstances that cause pain.

**Reading Motivation**

Over the past 20 years research has demonstrated that students' motivation is a primary concern of many teachers, and many classroom teachers acknowledge that motivation is the root of many problems they face in educating children today (O'Flahavan, Gambrell, Guthrie, Stahl, & Veenman, 1992). Deci and Ryan (1985) indicated that there is a vast amount of research that supports the idea that motivation plays a major role in learning. This applies to a broad spectrum of subjects taught in today's classrooms, and, of course, can be easily applied to reading. Because reading is an effortful activity that often involves choice, motivation is crucial to reading engagement (Wigfield, Guthrie, Tonks, & Perencevich, 2004). Research conducted over the past several years demonstrates that elementary children who are motivated to read spend more time reading than children who are not motivated (Guthrie, Wigfield, Metsala, & Cox, 1999).
Children typically come into school excited to learn and very motivated to do whatever is necessary to become a good student or reader (Edmonds & Tancock, 2003). However, as children move through elementary school, their motivation to learn appears to decline in all subject areas, including reading (Guthrie & Davis, 2003). This decline in motivation has been attributed to children’s growing awareness of their own performance as compared to others, as well as to instruction that emphasizes competition and does not address children’s interests (Guthrie & Davis, 2000).

Reading is an effortful activity that often involves choice (Guthrie, 2003). Therefore, motivation is crucial to reading engagement (Wigfield, Guthrie, Tonks, & Percenevich, 2004). When reading motivation decreases, the amount of reading children do usually decreases, which has detrimental influences in children’s reading comprehension and achievement (Mazzoni, Gambrell, & Korkeamaki, 1999). Research suggests that children who are motivated and who spend more time reading are better readers than children who spend little time reading (Turner, 1995). On the other hand, Wigfield, Guthrie, Tonks, & Perencevich indicate that even the reader with the strongest cognitive skills may not spend much time reading if he or she is not motivated to read. Consequently, it is important to consider what motivates children to spend more time reading.

Struggling readers tend to be notably unmotivated, and are especially likely to have low confidence in their reading, which is termed “self-efficacy” (Wigfield & Davis, 2003). Over the past several years, researchers have focused investigations into what conditions must exist in school settings to encourage children’s literacy engagement and
self-efficacy (Gambrell, Codling, & Palmer, 1996). In a national survey of first, third, and fifth grade students, Gambrell, Codling, and Palmer ascertained six classroom characteristics that should be present in order to support young readers’ motivation. These characteristics included having a teacher who (a) modeled reading, provided access to both (b) large amounts and (c) a wide variety and reading material, all of which were available in the classroom. Also, the teacher (d) offered opportunities for students to choose reading material, (e) offered opportunities for students to interact with other children and adults in the classroom about their reading interests, and (f) provided incentives directly related to reading.

Turner and Paris (1995) worked extensively with first grade children and later reasoned that literacy tasks in which children are invited to participate strongly influence their intrinsic motivation for reading and writing. They grouped their findings into a mnemonic device called the “six C’s.” These “six C’s” describe characteristics that provide support for literacy motivation in children. These include choice, challenge, control, collaboration, constructive comprehension, and consequences. These characteristics are the basis for a reading program that uses open tasks that allow the children to maintain control of both the product and the process of their work.

Both of these research groups provide for clear expectations for teachers to aspire to in order to motivate children to read. It should be noted that both constructs of instruction did include some form of external motivator. In the Gambrell, Codling, and Palmer (1996) research, she encourages incentives provided directly related to reading, as seen in part (f). Turner and Paris (1995) include the idea of consequences, again an
outside influence. The use of external rewards, or extrinsic motivation, will be addressed later in this review.

Research has also moved to answer the question of whether motivation is domain specific and whether motivation constructs are differentiated across various content areas. Research suggests that both instances occur (Wigfield, Guthrie, Tonks & Perencevich, 2004). Analytic studies of children's competence beliefs for different subject areas such as mathematics, reading, science, and so on show clearly that even kindergarten and first-grade children have distinct competence beliefs for various subject areas (Eccles, Wigfield, Harold, & Blumenfeld, 1993). Rather than having a broad sense of competence, or efficacy, children's sense of efficacy is differentiated into various areas (Wigfield et al., 2004). In other words, different subject areas motivated children differently.

The same can also be said for children's interest and intrinsic motivation for different activities, although there is less research in this area (Wigfield et al., 2004). Eccles et al. (1993) found that a child's value of interest for different subject areas formed different, distinct factors. Similarly, Gottfried (1990) used her Children's Academic Intrinsic Motivation Inventory to measure intrinsic motivation, and found that 7 to 9 year old children's intrinsic motivation differentiated into distinct subject areas. Subject areas were differentiated into reading, math, and general intrinsic motivation factors. This would make it appear that young children's competence beliefs and intrinsic motivation are differentiated across subject areas (Wigfield et al., 2004).
Wigfield et al. (2004) also indicates that another way children’s motivation can vary across domains is in its strength. Children may be more strongly motivated in one particular area than in another area. For instance, a child may be more strongly motivated in math than in reading. This seems to vary from individual to individual (Wigfield et al.). This research also indicates that the overall strength of children’s competence beliefs for particular activities appear to differ less than their actual interest in them.

Additionally, children’s motivation can be influenced strongly by the kinds of experiences that they have in school (Stipek, 2002). The approaches that schools use can affect the degree to which motivation becomes domain specific. When subjects are taught separately, children could be led very easily into a domain specific world, where motivations for each domain may be different. Wigfield et al. (2004) states that when a curriculum is integrated across content areas, it is possible that children’s motivation also may be more integrated across domains.

If it is accepted that children’s motivation is domain specific and varies with each subject, one now has to address what specifically inspires motivation specifically for reading. Wigfield and Guthrie (1995) did just that as they developed the Motivation for Reading Questionnaire (MRQ). This tool was used to assess various motivation constructs that they believed would relate to children’s reading. More specifically, they wanted to define in specific ways the nature of children’s motivation for reading.

Wigfield and Guthrie reported that many researchers interested in motivation focus on students’ sense of efficacy and beliefs about their ability. Ability beliefs are
children's evaluations of their competence in different areas. They indicate that an important implication of the work for motivation for reading is that when children believe that they are competent and efficacious at reading they should be more likely to engage in reading (Wigfield & Guthrie, 1997). It was a desire to measure these student beliefs that led to the development of the Motivation for Reading Questionnaire (MRQ).

Wigfield and Guthrie (1995) developed the MRQ to assess different aspects of reading motivation. Based on previous studies, observations, and interviews with children they identified 11 possible aspects of reading motivation. These aspects were then grouped into three main categories of motivation constructs: self-efficacy, intrinsic-extrinsic motivation, and social motivation. Within the construct of self-efficacy they included the aspects of reading efficacy and reading challenge. The intrinsic-extrinsic motivation construct contains the aspects of reading curiosity, reading involvement, importance of reading, reading, work avoidance, competition in reading, recognition for reading, and reading for grades. The third aspect, social motivation for reading, contains the aspects of social reasons for reading and compliance.

When administering the MRQ to fourth and fifth graders at the beginning and end of the school year, Wigfield and Guthrie (1997) also recorded the number of minutes read outside of class time to determine if a student's apparent motivation to read, as measured by the amount of time they spent reading, correlated with their perceived motivation and attitude, as measured by the MRQ. Results showed that children with higher intrinsic motivation, based on the MRQ, read more than students with lower intrinsic motivation. They even reported that highly intrinsically motivated children spent nearly three times as
much time reading outside of school than did the group lowest in intrinsic motivation. This pattern continued throughout the research. Overall, Wigfield and Guthrie were able to show that children’s reading motivation predicted the amount and breadth of their reading. They stated, “Children’s previous reading amount and breadth are important predictors of current reading practices. Thus, children who read more, and more broadly, are likely to continue to do so, whereas children reading less frequently are less likely to increase their reading. However, knowing whether or not children are motivated to read adds predictive power to this equation,” (Wigfield & Guthrie, 1997, p. 427).

Reading Incentive Programs

Finding ways to motivate children to read, and to read more, has been a goal of parents and teachers for years (McNinch, 1997). Over the past 20 years research has indicated that students’ motivation is a primary concern of many teachers, and numerous classroom teachers acknowledge that motivation is the root of many of the problems they face in educating children today (O’Flahavan, Gambrell, Guthrie, Stahl, & Alverman, 1992). Because of this, many teachers in classrooms all over the country have looked to incentive programs with external motivators to motivate the reluctant reader. In fact, Fantuzzo, Rohrbeck, Hightower, & Work (1991) reported that 81% of elementary school teachers they surveyed use incentives in their classrooms to improve reading. A large school district in the Southwest has even reported that 100% of principals and 95% of teachers said they use or have used some kind of reading incentive program within their school or classroom (Fawson & Moore, 1999).
Similar results are likely to be found throughout the United States. This information seems to state that reading incentive programs are indeed widely used in American classrooms now, and will probably be used for years to come. Throughout the country, several different types of reading incentive programs have been implemented in schools and individual classrooms. These programs vary in their individual components, but all seem to share two common components. These shared components are (1) a goal of encouraging students to increase the amount of time spent reading and (2) the use of tangible rewards for meeting specified reading goals (Gambrell & Marinak, 1997). Non-profit organizations and major corporations such as McDonalds and Pizza Hut sponsor these programs. They specifically target the elementary school-aged population, and participating students are rewarded with such things as an “All American Meal” from McDonalds, pizza coupons, and even money (Jacobson, 2000). Sometimes rewards are given for number of books read in a given time, and others are rewarded for number of minutes read in a given time period. Students are able to choose the books they want to read and some programs even allow students to read other materials such as magazines and newspapers (Gambrell & Marinak, 1997).

Because of the widespread popularity of these types of reading incentive programs, the question arises as to whether the programs are really effective. Some researchers and experts have questioned true value of these programs, even indicating that they actually cause more damage than good. McCullers, Fabes, and Moran (1987) have suggested that under extrinsic motivation, the person approaches the task at the minimal level of involvement deemed necessary to obtain a reward. The extrinsic reward
is good enough at the time to motivate task engagement, but performance is adversely affected as a result of reduced interest. Subsequently, it is suggested that when rewards are withdrawn, motivation to engage in the task will also suffer. Fawson and Moore (1999) have said that by using extrinsic rewards many teachers might be discouraging the development of internal motivation to learn. Therefore, the question becomes are reading incentive programs really effective in what they set out to do? Researchers have set out to answer that very question. Unfortunately, results have been somewhat inconclusive on the matter, possibly leading to some confusion.

McQuillan (1997), in a meta-analysis, thoroughly examined ten studies in which some sort of reward was given to students for reading. For this particular study, reading incentive studies were identified that involved the use of incentives for elementary or secondary students with the aim of promoting one or more of the following areas: reading proficiency, habits, and attitudes. Analysis of these ten studies showed that it was possible to divide them into two categories, those that showed positive effects and those that showed negative effects. McQuillan identified five studies whose conclusions found positive effects and five that indicated negative effects. However, McQuillan also stated that there were several problems with these studies. Some of these problems included poor design and reporting, lack of control groups, confounding variables, and incorrect statistical tests.

One study that fell into the "positive" category was performed by Harrop and McCann (1983). In this study, fifth graders were promised a letter home to their parents if they showed "good" progress in their English classes during a five-month treatment
phase. A treatment group received no letters or other rewards. The researcher reported some statistically significant gains made by the experimental group. However, McQuillan (1997) found two problems that render the results to be somewhat questionable. One is that the same teacher taught both sections in the study, both the experimental and the control group. McQuillan noted that there is a chance that the control group students knew about the experimental students getting rewards that they were not receiving, and were therefore "demoralized" by the knowledge. Secondly, the researcher failed to use correct statistical analysis.

The four other studies that reported some gains for the use of incentives all had confounding factors, which provided possible alternative explanations for results. A study by Voorhees (1993), for example, included sustained silent reading time, read-alouds, book clubs, and rewards. Many of these treatments, sustained silent reading and read-alouds for example, have been previously shown to increase reading achievement. Therefore, it may not have been only the rewards (or the rewards at all) that caused increases in achievement. There are too many other factors involved for the results to be considered completely accurate.

McQuillan (1997) found similar problems in other studies. Christmas (1993) studied a school with primarily low socioeconomic background students. An aggressive campaign was launched that included encouraging parents to read daily to their children, having teachers read aloud daily in their classrooms, starting an after school book club, and promoting reading in the school newsletter and PTA meetings. The school then also gave free books to students at the end of each month when their parents certified that they
had completed their daily read aloud. The investigator compared end-of-the-year scores from a standardized reading test to the scores of the previous year’s students. Gains were shown, but, again, it is difficult to say what exactly was the cause of the increase.

As stated earlier, McQuillan (1997) also found five studies that found no significant advantage for the use of incentives. In fact, Niemeyer (1987) actually showed slight losses in reading achievement as measured by standardized tests for students participating in a reading incentive program in California. Robbins and Thompson (1989) also found no significant gains in standardized reading tests after a three-month summer reading program in Indianapolis. However, no control or comparison groups were used in the study, rendering the results to be inconclusive.

Of the five negative effect studies, only Adler (1989) actually isolated the use of reading incentives as the lone variable. McQuillan (1997) found this research to be appropriate and confounding variables not to be a factor in the findings. Two groups of sixth grade students from different schools participated in a five-month experiment. The experimental group participated in sustained silent reading, as well as the Pizza Hut incentive program. For every 250 pages read, a student would receive a free pizza. The control group only participated in the sustained silent reading. At the end of the treatment a standardized reading test was administered to both groups. Results indicated that both groups showed small gains in reading achievement, yet there were no significant differences between groups.

In 2000, Jacobson conducted a study of the effects of extrinsic rewards on elementary student’s motivation to read. Additionally, she examined effects of the
program on reading achievement. This study included pre and post testing of both motivation and achievement of students in the fifth grade. A reading motivation and attitude survey measured the motivation and a reading probe measured the achievement. In between the pre and post-tests was a treatment period involving a reading incentive program called “Read a Million Minutes.” Analysis of data indicated that neither intrinsic nor extrinsic motivation showed much change throughout the course of the study (Jacobson, 2000). Additional analysis on the immediate impact of the reading incentive program suggested that time spent reading did increase during the course of the incentive period, but this only lasted for the month that the rewards were being given for reading. Reading achievement also showed no improvement as a direct result of a reading incentive program. In fact, achievement actually declined in all achievement groups (Jacobson, 2000). Based on her findings, Jacobsen recommends that educators be cautious about their use of incentive program in classrooms. She states, “While rewards may have a temporary effect on increasing student’s time spent reading, more research is needed to examine the short term and long term effects of time spent reading after the rewards have been removed,” (Jacobson, 2000, p. 65).

McNinch (1997) also conducted a study to examine the effects of one particular reading incentive program, Earning By Learning. Earning By Learning (EBL) is a unique program designed to increase the reading attitudes of academically at-risk children by combining two strong motivational factors: cash rewards and adult approval. Children were encouraged and guided to read. For each book they read, a cash award
was given. These awards are typically made at the end of the program and the amounts earned vary with each individual based upon number of book read (McNinch, 1997).

In the study of this program McNinch (1997) asked three major questions: 1) Will the cash rewards of the EBL program motivate children to read? 2) Will the cash rewards of the EBL program change children’s attitudes toward reading? 3) Will the cash rewards of the EBL program change children’s school behaviors in a positive direction?

The EBL program that McNinch studied took place during a half-day summer school program in Georgia. After the incentives were put into place, records were kept as to how many books students read. Additionally, reading attitude was measured by administration of the Elementary Reading Attitude Survey, given in a pre/post-test format. In answer to question 1, McNinch (1997) states that, based on the number of books read, the EBL program was successful in getting at-risk children, who are not usually thought of as readers, to read, and read continuously, during the summer program. This was evidenced by the fact that 20 children read 829 books throughout the summer, with the fewest number of books being read by a single student being 15.

To answer question 2, McNinch employed the Elementary Reading Attitude Survey, which is a self-reporting questionnaire of 20 questions in a Likert format. After completion of the program the mean of the attitude portion of the survey was 3.1 (mildly excited) as opposed to a mean of 2.8 (neutral) prior to program implementation. A one-tailed t-test also indicated that the pre and post-test attitude scores were significantly different from each other, changing positively during the cash incentive program.
(McNinch, 1997). From this information, McNinch concluded that the EBL program seemed to be effective in changing the overall attitudes of at-risk students toward reading.

The third question posed was addressed four months into the next school year. Teachers of the students involved in the EBL program were asked to complete performance assessments on each of the pupils. This assessment looked at habits and achievement levels in reading. Analysis of the performance assessments seemed to show that there was a significant rise in achievement and positive reading habits. Again, McNinch concluded that rewarding children for reading changed both their literacy performance and their general school habits. Overall, in his discussion, McNinch (1997) states, “Extrinsic motivational techniques are important in any reading program. They are useful in increasing reading participation and encouraging at-risk children to read. The Earning By Learning approach to motivation, using cash awards at the end of a voluntary program, appears to be successful in increasing the quantity of books that at-risk children read,” (p. 188).

Overall, research has provided inconclusive results as to whether reading incentive programs do indeed change student attitudes and motivation toward reading. Studies have shown positive effects of these programs, but have also shown negative effects. Many studies did find gains in time spent reading during the duration of the program. However, the questions still remain as to whether they can truly change a student’s internal feelings about reading, and affect their attitudes and behaviors following the programs.
CHAPTER III

METHODOLOGY

The following chapter will outline the methods used by the principal researcher to perform the research. The chapter will discuss the participants, design of the study, the reading incentive program used, and the measures utilized. The research questions guiding this research were:

1. Is there a relationship between a reading incentive program and time spent reading independently?
2. Is there a relationship between a reading incentive program and student attitude toward reading?
3. Is there a relationship between a reading incentive program and motivation to read independently?

Participants

Participants for this study included 27 sixth graders from an elementary school in a small city in Iowa. Data were used from 27 students for the survey portion of the study, while only 22 of those students were used to compare the number of minutes spent in independent reading, due to lack of sufficient data from 5 of the students. These students submitted fewer than seven reading logs, so could not be included in that part of the study. Permission to participate in the study was obtained from children's parents or guardians. Ten of the subjects were girls and 18 of them were boys. These subjects were of predominantly white, lower to middle class backgrounds, but also included two students of African-American backgrounds and one of Latino background.
Design

This study was designed to measure the effect of external rewards on children’s motivation to read independently, as well as whether the rewards left any lasting impressions on student’s intrinsic motivation. This study was conducted in the student’s natural environment, the classroom, as well as taking information from an even more natural environment, the home. Because of this, concerns over validity of laboratory settings did not come into play, and it can be assumed that results would be typical of many classroom settings.

The group of students was split into two groups, an experimental, consisting of 13 students, and a control, consisting of 14 students. The experimental group was the principal researcher’s own sixth grade class. The control group was the other sixth grade class in the building. Each group completed reading logs, as outlined below, but one group received rewards while the other did not. Students were briefed on the goals of the research and were told as much as was outlined in the parental permission letter (Appendix D).

The data collection phase of the study was conducted in three main parts. First, the two teachers asked all students to record nightly reading minutes on provided reading logs for a total of two weeks. This established baseline data. Both groups were asked to do this, with no expectations given as to how many minutes of reading were desirable. Additionally, a questionnaire was administered in this initial phase to gauge student’s perceived motivation to read independently and attitudes about reading.
The second phase introduced rewards to the experimental group for reading certain amounts of minutes. No rewards were issued to the control group, and both groups were still asked to fill in the provided reading logs to keep track of independent reading time. The rewards were made available to students for a total of four weeks.

Lastly, the reading incentives were removed, and both groups were asked to continue to fill out reading logs for a total of two more weeks. Students were told that they could no longer progress through the incentive levels, but that they would still be expected to fill out reading logs for the next two weeks. At the end of this last two-week time period, students were again asked to complete a reading motivation questionnaire. At this time, all data was compiled and analysis begun.

Previous research had suggested that rewards might affect students differently depending on their interest and attitudes toward a particular task (Jacobson, 2000). This study was designed to take those differences into account by grouping students into three groups based on apparent reading interest, as determined by baseline data. For each group involved in the study, control and experimental, the two weeks of baseline reading times were averaged for each child, and then the range was found between the highest minutes and lowest average number of minutes. This range was divided into three equal groups and labeled as low, middle, and high initial interest in reading. It was then hypothesized that students in the lowest and middle initial reading interest groups would read more following the implementation of the rewards program. Secondly, it was also hypothesized that students in the high interest group would show no change in the amount of time spent reading.
Reading Incentive Program

The principle investigator designed the reading incentive program with consideration given to offering incentives that would be of interest to the particular group of students. Some previous research using incentives for reading independently were not always seen by the principal investigator as offering high interest to sixth grade students. It is hypothesized that higher interest rewards will more easily spark the interest of the students.

Incentives were available at different levels that were reached by independently reading a predetermined number of minutes. In this program, each step consisted of 180 minutes. Each level of achievement offered a choice of three to four possible rewards in order to appeal to the greatest number of students. Many of the choices were the same at each level, giving students a chance to gather different rewards at each level without missing out on any of them. Rewards varied from fruit treats, to homework coupons, to extra recesses, to candy bars. Rewards even included tickets to a local semi-pro baseball team's games (the team donated these tickets). The following, Table 1, is a breakdown of each of the prizes at specific levels of reading achievement.
Table 1

Reading Incentive Program Achievement Levels

<table>
<thead>
<tr>
<th>Minutes of Reading Levels</th>
<th>Prize (Incentive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>fruit treat</td>
</tr>
<tr>
<td>360</td>
<td>Homework coupon (HC), fruit treat (FT), extra recess (ER)</td>
</tr>
<tr>
<td>540</td>
<td>Baseball ticket plus HC, FT, or ER</td>
</tr>
<tr>
<td>720</td>
<td>Candy bar plus HC, FT, or ER</td>
</tr>
<tr>
<td>900</td>
<td>HC, FT, or ER (pick two)</td>
</tr>
<tr>
<td>1000</td>
<td>Baseball Homerun</td>
</tr>
<tr>
<td>1080</td>
<td>HC, FT, or ER (pick two)</td>
</tr>
<tr>
<td>1260</td>
<td>Restaurant certificate</td>
</tr>
<tr>
<td>1440</td>
<td>To be determined</td>
</tr>
<tr>
<td>1620</td>
<td>To be determined</td>
</tr>
</tbody>
</table>

Each time a student reached a level of a certain number of minutes read, they were given the prize for that level. Students could progress as far as they wanted through the level of prizes throughout the course of the four-week treatment period. The 1000-minute level was described as a “Baseball Homerun.” This was a prize provided by the local baseball team in addition to the game tickets. This prize provided students with an
additional two game tickets, coupons for food at the game, and a chance to come out on the field to be recognized. For students that progressed to a level beyond 1260 minutes, appropriate prizes were discussed, with input from the student and principal researcher. When a student reached this level, it was decided that an extra recess would be provided for the entire class.

Students kept track of the amount of time they read on weekly logs provided by the principal investigator. Each log consisted of seven slots, one for each day of the week. Only reading that was done outside of the school day was counted toward their total reading minutes for the length of the incentive program. Any reading material was acceptable, but students were asked to signal what it was that they were reading. Additionally, students were asked to have a parent signature on the sheets to help keep logs as accurate and honest as possible.

Measures

The Motivation for Reading Questionnaire-Revised (MRQ-R)

The MRQ-R (Wigfield & Guthrie, 1997) is a self report measure intended to assess different aspects of reading motivation. The survey was first designed in 1995 and then revised by Wigfield and Guthrie in 1997. Sections of the revised version were utilized for this research. Wigfield and Guthrie identified eleven possible aspects of motivation and grouped them into three categories of motivation constructs: self-efficacy, extrinsic and intrinsic motivation, and social motivation. The principal researcher found this questionnaire to be of interest and useful within this study. Permission was given to the principal investigator by Wigfield and Guthrie to use the MRQ-R and it was decided
that only the intrinsic and extrinsic scales would be administered to students, as these scales were the most closely related to the purposes of this study (see Appendix A for selected questions used by the principal researcher for this study. Questions 1-30 are not in the same order as the original MRQ-R, but are grouped together in sections outlined below).

The extrinsic component contains the categories of Recognition, Grades, and Competition sub-scales. The intrinsic component includes the Efficacy, Curiosity, and Involvement sub-scales. Each item within each sub-scale is rated by students on a four-point scale ranging from "very different from me" to "a lot like me." One point was awarded to "very different from me" up to four points for "a lot like me." Included in the intrinsic component of the questionnaire there is the Efficacy sub-scale, which includes three items with scores ranging from 3 to 12, and represented as questions 1-3 on the MRQ-R. The sub-scale measures the belief of having the ability to be successful in reading. The Curiosity sub-scale is comprised of six items and scores can range from 6 to 24. These questions are located in questions 4-9 of the MRQ-R. This sub-scale measures the desire to learn about a topic of interest. Finally, the Involvement sub-scale is made up of six items with scores ranging from 6 to 24, found in the attitude/motivation survey as questions 10-15. This sub-scale is a measure of the enjoyment of reading a variety of texts.

In the extrinsic component are the Recognition, Grades, and Competition sub-scales. The Recognition sub-scale consists of five items and scores can range from 5 to 20. This sub-scale is found in questions 16-20 on the MRQ-R. This is a measurement.
for the gratification in receiving a tangible form of recognition for success. The Grades sub-scale includes four items and scores can range from 4 to 16, and is found in questions 21-24 on the MRQ-R. This sub-scale measures the desire to be evaluated positively by the teacher. The third extrinsic sub-set is Competition, which includes six items with scores ranging from 6 to 24. The Competition sub-scale is located in questions 25-30 on the survey. This sub-scale measures a student's desire to outperform others in reading.

Reliability coefficients were computed for these sub-scales using unit weighted scales from the item set. Coefficients ranged from .47 to .81. The most reliable sub-scales included Curiosity, Involvement, and Competition (Wigfield & Guthrie, 1997).

Independent Reading Time

Each student who participated in the research, whether they were in the reading incentive program or not, were asked to complete weekly logs of the time they spent reading outside of school. The logs were designed by the principal researcher based on logs designed for previous research studies (Appendix B). The reading logs asked students to take down the number of minutes that they read each day of the week, as well as signifying what kinds of materials they were reading. Each Monday of the research period, the students would return the previous week's minutes, as well as receive their new log sheet for the upcoming week. As logs were turned in, minutes were tallied up into a total and put on a graph. Students could then easily see how many minutes they had read and which reward level they were at, or near. The independent reading logs were collected for a total of eight weeks, starting on April 3, 2006 and ending May 29, 2006. The first two weeks allowed for collection of baseline data. The next four weeks
included the treatment period for the experimental group. Finally, the last two weeks were used to determine if effects of the incentives were long lasting with the experimental group.

**Data Analysis**

Data from the surveys and reading logs were collected, organized into spreadsheets, and then tabulated by utilizing SPSS (Statistical Package for the Social Sciences). The results were reported using means, percentages, p-values, and t-values.
CHAPTER IV

RESULTS

The purpose of this study was to examine how a reading incentive program will affect students' motivation to read, attitude about reading, and time spent reading. The research questions guiding this research were:

1. Is there a relationship between a reading incentive program and time spent reading independently?

2. Is there a relationship between a reading incentive program and student attitude toward reading?

3. Is there a relationship between a reading incentive program and motivation to read independently?

The following section contains data compiled from 27 students. Students were split into two groups, an experimental and a control. This chapter will present the findings of the data. Specifically, the chapter will describe the number of minutes students read before and after the incentive program. Second, the chapter will examine if the changes in student attitudes, seen as their intrinsic motivation, before and after the implementation program.

Changes in Minutes Read Before and After Incentive Program

The goal of the incentive program was to increase the amount of time students spent reading independently. In order to determine if this was a success, average weekly time spent reading was determined prior to the introduction of the incentives, and then after the incentives were taken away. This gave pre and post treatment period data to be
analyzed. To examine if there was a significant change in the amount of time spent reading for the overall control and experimental groups, a paired-sample t-test was conducted. Data from nine students from the control group were analyzed. The results indicated that there was no significant difference between pre and post treatment data for the control group (p=.716). There was no significant increase in the amount of time this group of students spent reading during the time of research. On the other hand, when the pre and post treatment data were analyzed for the experimental group (N=13), which received incentives, the p-value was calculated at .023, which is significant. There was a significant increase in the amount of time these students spent reading independently. The mean scores, standard deviations, t-test, and p-values (level of significance) are presented in Table 2. A p-value of .05 or lower is considered significant.

Table 2

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Pre M</th>
<th>SD</th>
<th>Post M</th>
<th>SD</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>9</td>
<td>273.11</td>
<td>78.29</td>
<td>286.11</td>
<td>106.21</td>
<td>-.376</td>
<td>.716</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>13</td>
<td>274.00</td>
<td>146.32</td>
<td>512.70</td>
<td>401.27</td>
<td>-2.611</td>
<td>.023</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Changes In Amount of Time Spent Reading Independently

The primary researcher was also interested in whether a reading incentive program affected students differently when compared according to their initial intrinsic
motivation to read. As stated in chapter 3, students in both the experimental and control
groups were categorized by their initial interest in reading, based on reading logs
submitted in the first two weeks of the research period. Students were grouped into high,
medium, and low initial intrinsic motivation. Using a paired sample t-test, average
weekly reading was compared for these three categories in both the control and
experimental groups. The mean scores, standard deviations, t-values, and p-values (<.05
is considered significant) for the three categories of control groups are presented in Table
3. When looking at the three categories within the control group, no significant changes
could be found for any category. This is not unexpected as the overall control group
showed no significant increase. The principal researcher also examined the mean number
of minutes each group read in the pre and post timeframes. The high motivation group
had a pre-treatment total of 420 minutes and a post-treatment total of 425 minutes. There
was only one subject in this group. The middle motivation group (N=6) had a pre-
treatment mean of 283.8 minutes and a post-treatment mean of 283.3 minutes. The low
motivational group (N=2) had a pre-treatment mean of 167.5 minutes read and a post-
treatment mean of 225 minutes read.

Additionally a paired-sample t-test was conducted to determine significance for
the three categories of reading, high, medium, and low initial motivation, for students in
the experimental group. When analyzing the data, one sees that, despite there being an
overall significant increase in amount of time spent reading independently, no category
showed significance on its own. The primary researcher then looked at the mean minutes
each category averaged to see if there were changes there. The high motivation group
(N=4) changed from a pre-treatment mean of 456.0 minutes to a post-treatment mean of 832.5 minutes. The middle motivation group (N=3) showed a pre-treatment mean of 284 minutes and a post-treatment mean of 503.3 minutes. The low motivation group (N=6) went from a pre-treatment mean of 147.7 minutes to a post-treatment mean of 304.2 minutes. The means, standard deviations, t-values, and p-values (<.05 is considered significant) for the three categories of the experimental group are presented in Table 4.

Table 3

Control Group Minutes Read Before and After Incentive Program

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>420.00</td>
<td>NA</td>
<td>425.00</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Middle</td>
<td>6</td>
<td>283.83</td>
<td>29.53</td>
<td>283.33</td>
<td>80.22</td>
<td>.012</td>
<td>.991</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>167.50</td>
<td>10.61</td>
<td>225.00</td>
<td>176.78</td>
<td>-4.89</td>
<td>.710</td>
</tr>
</tbody>
</table>

Table 4

Experimental Group Minutes Read Before and After Incentive Program

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>4</td>
<td>456.00</td>
<td>64.19</td>
<td>832.50</td>
<td>552.29</td>
<td>-1.493</td>
<td>.232</td>
</tr>
<tr>
<td>Middle</td>
<td>3</td>
<td>284.00</td>
<td>36.16</td>
<td>503.33</td>
<td>258.67</td>
<td>-1.326</td>
<td>.316</td>
</tr>
<tr>
<td>Low</td>
<td>6</td>
<td>147.67</td>
<td>51.71</td>
<td>304.17</td>
<td>206.43</td>
<td>-1.685</td>
<td>.153</td>
</tr>
</tbody>
</table>
Changes in Mean Number of Minutes Read and Percent of Increase

In order to determine actual differences between the pre-treatment means and post-treatment means of the number of minutes read by students, the means for each category of the control and experimental group were subtracted to find the difference. This difference is the change in amount of reading time in minutes. Then the changes were divided by the pre-treatment means to determine the percent of increase for each category. In the control group, the high motivation category had an increase of 5 minutes, which is a 1% increase. The middle motivation category had a decrease of .05 minutes, or .002%. The low motivation category showed an increase of 57.5 minutes, which is a 34% increase.

In the experimental group there was an increase of 376 between pre-treatment and post-treatment means, which is an increase of 82%, for the high initial motivation category. The middle motivation category had an increase of 219.3 minutes for a 77% increase. The low initial motivation category increased time spent reading by 156.5 minutes, which is a 106% increase. The amount of change, showed in minutes, and the percentage of change for all categories in both the control and experimental is shown in Tables 5 and 6.
Table 5

*Control Group Amount and Percentage of Increase in Minutes Read*

<table>
<thead>
<tr>
<th>Groups</th>
<th>Amount Changed (minutes)</th>
<th>Percent Changed</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td>Middle</td>
<td>-0.05</td>
<td>0.002%</td>
</tr>
<tr>
<td>Low</td>
<td>57.5</td>
<td>34%</td>
</tr>
</tbody>
</table>

Table 6

*Experimental Group Amount and Percentage of Increase in Minutes Read*

<table>
<thead>
<tr>
<th>Groups</th>
<th>Amount Changed (minutes)</th>
<th>Percent Changed</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>376</td>
<td>82%</td>
</tr>
<tr>
<td>Middle</td>
<td>219.3</td>
<td>77%</td>
</tr>
<tr>
<td>Low</td>
<td>156.5</td>
<td>106%</td>
</tr>
</tbody>
</table>

**Intrinsic Motivational Beliefs about Reading**

Six sub-scales of the MRQ-R Wigfield & Guthrie (1997) were administered before and after the implementation of the incentive program with the intention of determining whether there were changes in students' motivational beliefs about reading. Paired sample t-tests were used to check for significant changes. The paired sample t-tests were run for both the control and experimental group. No area of intrinsic motivation showed significant change in the control group. This is used as a comparison
for the experimental group. Results suggested that there were no significant changes in the experimental group. The means, standard deviations, t-values, and p-values (<.05 is considered significant) are presented in Table 7 for the control group and in Table 8 for the experimental group.

Table 7

*Control Group Changes In Intrinsic Motivational Beliefs*

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Pre M</th>
<th>Pre SD</th>
<th>Post M</th>
<th>Post SD</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy</td>
<td>14</td>
<td>9.00</td>
<td>1.92</td>
<td>8.42</td>
<td>1.22</td>
<td>1.665</td>
<td>.120</td>
</tr>
<tr>
<td>Curiosity</td>
<td>14</td>
<td>15.57</td>
<td>4.07</td>
<td>16.71</td>
<td>3.58</td>
<td>-1.902</td>
<td>.080</td>
</tr>
<tr>
<td>Involvement</td>
<td>14</td>
<td>13.36</td>
<td>3.69</td>
<td>14.79</td>
<td>2.67</td>
<td>-1.272</td>
<td>.226</td>
</tr>
<tr>
<td>Recognition</td>
<td>14</td>
<td>16.36</td>
<td>3.79</td>
<td>17.00</td>
<td>4.31</td>
<td>-.614</td>
<td>.550</td>
</tr>
<tr>
<td>Grades</td>
<td>14</td>
<td>11.38</td>
<td>3.07</td>
<td>12.62</td>
<td>3.15</td>
<td>-1.550</td>
<td>.147</td>
</tr>
<tr>
<td>Competition</td>
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<td>14.77</td>
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Experimental Group Changes in Intrinsic Motivational Beliefs

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<th>SD</th>
<th>t-value</th>
<th>Sig.</th>
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<tr>
<td>Efficacy</td>
<td>13</td>
<td>8.92</td>
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<td>1.70</td>
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<td>14.77</td>
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<td>-.106</td>
<td>.918</td>
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<tr>
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<td>18.69</td>
<td>3.92</td>
<td>19.23</td>
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<td>-.756</td>
<td>.464</td>
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<td>Grades</td>
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<td>12.38</td>
<td>2.90</td>
<td>-.969</td>
<td>.352</td>
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<tr>
<td>Competition</td>
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<td>15.84</td>
<td>4.98</td>
<td>16.23</td>
<td>5.96</td>
<td>-.540</td>
<td>.599</td>
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</table>

Experimental Group's Changes in Intrinsic Motivation Beliefs by Achievement Groups

The principal researcher looked more deeply into the experimental group by analyzing data for each of the assigned motivational groups, low, medium, and high. Analyses were carried out separately for each of the categories to examine differences in students' perceived motivation for reading independently. To determine if there were significant differences in reading motivation for each of the categories, a paired-sample t-test was conducted for each of the three categories. The means, standard deviations, t-values, and p-values (<.05 is considered significant) for all three categories are presented in Table 9.
Results of the analysis for the low motivational group showed a significant change in sub-scale, Recognition. The p-value for this sub-scale was .001. No other sub-scale in the low motivation category showed significant p-values.

Analysis of the data for the middle motivation level showed no significant changes in any of the motivational sub-scales.

Analysis of the data for the high motivation level showed significance in one sub-scale, that of Involvement, with a p-value of .049. No other sub-scale showed significant change in the high motivation category.
Table 9

*Experimental Group’s Changes In Intrinsic Motivational Beliefs—Achievement Groups*

### Low (n=6)

<table>
<thead>
<tr>
<th>Category</th>
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<th>SD</th>
<th>t-value</th>
<th>Sig.</th>
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<tr>
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<td>Curiosity</td>
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<tr>
<td>Involvement</td>
<td>13.66</td>
<td>2.33</td>
<td>15.33</td>
<td>3.07</td>
<td>-1.81</td>
<td>.129</td>
</tr>
<tr>
<td>Recognition</td>
<td>16.83</td>
<td>4.26</td>
<td>19.33</td>
<td>4.67</td>
<td>-11.18</td>
<td>.001</td>
</tr>
<tr>
<td>Grades</td>
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<td>3.01</td>
<td>12.00</td>
<td>3.09</td>
<td>-1.87</td>
<td>.121</td>
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<tr>
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<td>4.95</td>
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### Middle (n=3)

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<tr>
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<tr>
<td>Curiosity</td>
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<td>3.79</td>
<td>19.33</td>
<td>4.16</td>
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<tr>
<td>Involvement</td>
<td>15.00</td>
<td>3.60</td>
<td>15.67</td>
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<td>-2.00</td>
<td>.184</td>
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<tr>
<td>Recognition</td>
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<td>19.67</td>
<td>4.04</td>
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<td>.728</td>
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<tr>
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<td>1.00</td>
<td>13.00</td>
<td>3.00</td>
<td>.000</td>
<td>1.00</td>
</tr>
<tr>
<td>Competition</td>
<td>18.33</td>
<td>4.16</td>
<td>18.67</td>
<td>5.03</td>
<td>-.500</td>
<td>.667</td>
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(table continues)
<table>
<thead>
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<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficacy</td>
<td>10.25</td>
<td>1.71</td>
<td>9.50</td>
<td>1.91</td>
<td>3.00</td>
<td>.058</td>
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<tr>
<td>Curiosity</td>
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<td>17.75</td>
<td>4.20</td>
<td>.087</td>
<td>.943</td>
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<tr>
<td>Involvement</td>
<td>16.25</td>
<td>4.19</td>
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<td>4.04</td>
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<td>.049</td>
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<tr>
<td>Recognition</td>
<td>20.25</td>
<td>3.77</td>
<td>18.75</td>
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<td>1.26</td>
<td>.297</td>
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<tr>
<td>Grades</td>
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<td>1.82</td>
<td>12.50</td>
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<td>.844</td>
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<tr>
<td>Competition</td>
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<td>6.21</td>
<td>14.75</td>
<td>6.60</td>
<td>.129</td>
<td>.905</td>
</tr>
</tbody>
</table>
CHAPTER V

DISCUSSION

The purpose of this study was to examine how a reading incentive program will affect students' motivation to read, attitude about reading, and time spent reading. The research questions guiding this research were:

1. Is there a relationship between a reading incentive program and time spent reading independently?
2. Is there a relationship between a reading incentive program and student attitude toward reading?
3. Is there a relationship between a reading incentive program and motivation to read independently?

In an age of increased accountability, even down to how well, and how much, students read independently, teachers are looking for ways to motivate students to read. One way to which schools and teachers have looked to increase motivation is with reading incentive programs. These incentive programs have been gaining widespread popularity as a tool to increase students' motivation to read. These incentive programs range from teacher-made, local classroom programs to huge corporation-sponsored programs, such as Pizza Hut's "Book-It" program. Incentives have included, books, food coupons, classroom privileges, and even, in the case of a program called Earning By Learning, cash awards (Gambrell & Marinak, 1997).

Despite this widespread enthusiasm for such programs there has not been solid, replicable research that has supported the continued use of incentive programs to increase
students' future motivation to read (McNinch, 1997). In fact, there are many studies that show that motivation is not affected or decreases when extrinsic rewards are given (Simons, Dewitte, & Ryan, 2000). However, little research has looked specifically at effects of using rewards in a reading program.

This study examined how a reading incentive program will affect students' motivation and attitudes toward reading and their time spent reading.

The principal researcher's first hypothesis was that the amount of time spent reading independently would increase during the reading incentive period, but would decrease once the incentives were taken away. This hypothesis was not supported by the collected data. First of all, when one looks at the overall results, it is seen that the control group has no significant change in the amount of time spent reading in early April compared to late May. They did not receive incentives for increasing their reading and therefore, as a whole, they did not. It can be assumed that this would be true of most classrooms at this time of year. However, the experimental group that received incentives for reading did show significant increases in time spent reading independently. There was a huge spike in minutes read weekly in the overall group, and the increase stayed even after the incentives were removed. The significance here was .023, moderately significant. These initial results would suggest that the right kind of reading incentive program can indeed motivate children to read, and stick with it.

The data was then analyzed more deeply to look at how the reading incentive program affected students at different motivational levels. The researcher divided the experimental group into three motivation categories, low, middle, and high. The paired
sample t-tests were implemented to look for significant differences. Despite the fact that the overall experimental group showed a significant change in pre and post data, no single category showed significant changes. It could be suggested that the reason for this is the small sample sizes of each category. The whole experimental group was a small sample, and dividing this into three, made sample sizes that could not detect differences among groups.

However, when looking at the differences in mean number of minutes read for each category, there are increases shown. In the high category the mean went from 456 minutes per week to 832 minutes per week (82% increase). The middle category increased from 284 minutes per week to 503.3 minutes per week (77% increase). The low motivational group showed pre and post increases from 147.67 minutes per week to 304.17 minutes per week (106% increase). It could be argued that these are significant increases in the amount of time these students spent reading independently.

This information also related to the second hypothesis presented by the principal researcher, which was that the greatest increase in reading minutes would come from the lowest motivation group. Again, this hypothesis was not supported when looking solely at the changes in mean number of minutes read independently. In this case, the low motivation group actually had the lowest increase in minutes of the three categories. The low motivation group had a mean increase of 156.5 minutes read per week, compared to 219.3 minutes in the middle group, and 376 minutes read per week for the high motivation group. Although it was not the greatest increase in number of minutes or in percentage of increase, it is still a significant increase for the low motivation category,
giving that group an ending mean that was greater than the beginning mean of the middle motivation category, essentially raising the group to the next motivation level.

However, if one looks at the percentage of change, then the low motivation group did indeed have the greatest increase. The low initial motivation group actually had an increase of 106% from pre-treatment means to post-treatment means. This compares to a 77% increase for the middle motivational category and an 82% increase for the high motivation group. Although the actual number of increased minutes was not the largest, the low motivation group clearly indicated the greatest increase by percentage.

Despite the positive increases that seem to be shown by this research in the amount of time students spent reading independently, it is also important to look at the standard deviations of each of the three categories. When looking at the pre-incentive program standard deviations, one finds the high motivation group to be 64, the middle to be 36, and the low to be 51 minutes. When thinking about number of minutes a student reads in one week, these variations are quite small, meaning most students read a fairly comparable number of minutes within their category. However, when the post-treatment data is examined, there is a huge jump in standard deviation for each category. The high motivation group increased its standard deviation to 552 minutes, the middle to 258 minutes, and the low to 206 minutes read per week. This probably means that some students were definitely motivated to read and increased their weekly totals by a substantial amount. However, the high deviations would indicate that there some students that were not motivated by the incentives and read the same amount that they had previously, or decreased time spent reading independently. Initial analysis of these
findings would indicate that a reading incentive program can motivate some or many of
the students in a class. However, it appears that not all students are motivated.

If it is accepted that a reading incentive program can motivate children to read
more, the next obvious question is whether there is any kind of effect on a child’s
intrinsic motivation to read. In other words, are the children just reading to get rewards,
or do they find that they enjoy reading and want to read more because of the internal
interest? This question is really at the heart of this research. Because of classroom
experience, the principal researcher hypothesized that there would, in fact, be no change
in intrinsic motivation for the students in the experimental group, regardless of increase
in the amount of time they spent reading independently. Analysis of the data collected
from the Motivation for Reading Questionnaire would indicate that this hypothesis can
indeed be accepted. There would appear to be no significant positive changes in any of
the reading motivation categories.

To gauge reading motivation students were asked to complete the Motivation for
Reading Questionnaire-Revised developed by Wigfield and Guthrie (1997). The MRQ-R
is a self-report measure intended to assess different aspects of reading motivation.
Wigfield and Guthrie identified eleven possible aspects of motivation and grouped them
into three categories of motivation constructs: self-efficacy, extrinsic and intrinsic
motivation, and social motivation. The principal researcher found this questionnaire to
be of interest and useful within this study. Permission was given to the principal
investigator by Wigfield and Guthrie to use the MRQ-R and it was decided that only the
intrinsic and extrinsic scales would be administered to students, as these scales were the most closely related to the purposes of this study (see Appendix A).

Included in the extrinsic component are the Recognition, Grades, and Competition sub-scales. The intrinsic component includes the Efficacy, Curiosity, and Competition sub-scales. Each item within each sub-scale is rated by students on a four-point scale, ranging from "very different from me" to "a lot like me." The recognition sub-scale consists of five items and scores can range from 5 to 20. This is a measurement for the gratification in receiving a tangible form of recognition for success. The Grades sub-scale includes four items and scores can range from 4 to 16. This sub-scale measure the desire to be evaluated positively by the teacher. The third extrinsic sub-set is Competition, which includes six items with scores ranging from 6 to 24. This sub-scale measures a student's desire to outperform others in reading.

In the intrinsic component of the questionnaire there is the Efficacy sub-scale, which includes three items with scores ranging from 3 to 12. The sub-scale measures the belief of having the ability to be successful in reading. The Curiosity sub-scale is comprised of six items and scores can range from 6 to 24. This sub-scale measures the desire to learn about a topic of interest. Finally, the Involvement sub-scale is made up of six items with scores ranging from 6 to 24. This sub-scale is a measure of the enjoyment of reading a variety of texts.

As with the reading minutes, a control group also completed the survey at the beginning and end of the research period to develop a baseline for comparison. As was expected, this control group showed no significant changes in intrinsic motivation over
the course of the eight-week research period. It can then be assumed that sixth graders at the end of the year would normally not see an increase in independent reading motivation.

The experimental group data were from the MRQ-Revised was then analyzed to look for significant changes. Again, it was hypothesized that there would be no significant increase in motivation for these students. Examination of the data for the overall experimental group showed no significant increases for any of the six sub-scales included on the questionnaire. P-values for the six sub-scales varied greatly, but none were even close to being less than .05, which would signify significance.

Examination of the data for the three motivational categories within the experimental group showed that no category showed any significant increases, with exception of two. One place in which the p-value showed significance was in the low motivation category (N=6) for the sub-scale of Recognition. This was shown as a significant difference (.001). The mean changed from 16.83 to 19.33, out of a possible 20. This would seem to show that students in this low motivational group saw this reading incentive program as a way to be recognized for the work that they do. They could indeed be recognized for success. Because this incentive program included all students in the class, and a chart was kept to track student reading minute totals, those who read a lot independently were recognized very easily. Results from the MRQ-Revised seem to indicate that these students enjoyed this recognition and now hold it as another reason to read more independently. It is also worth interesting to note that the low motivation group also showed a near significant change (p=.054) in the Efficacy
category, which measures a student's belief that they can successfully at reading. It could be hypothesized that the increased recognition for success lead to an increase in these student's feelings that they could be successful. It would be interesting to see if these responses hold up after time when opportunities for recognition are no longer in place. Would these lower motivated students still count recognition as an important motivator? Further research would be needed to answer that question.

The second instance of significance fell in the higher motivation category (N=4). The sub-category of Involvement shows a p-value of .049. This sub-category measures the enjoyment of reading a variety of texts. It is also could be mentioned that this high motivation group also indicated a close to significant change in the Efficacy sub-category, just as the lower motivation group showed. Again, progressing through the incentive categories could have lead to this sense of increased feelings of success.

Despite these two instances of significant increase, it appears that, for the most part, this reading incentive program did not do anything to change student’s intrinsic motivation to read. Again, it did cause them to read more, but this did not affect them internally. It could then be hypothesized that without incentives for reading, students will eventually lose some of their motivation to read independently.

Overall analysis indicates that a reading incentive program does motivate sixth grade students to read more independently when the reading incentives are in place. However, there was virtually no effect on student’s intrinsic motivation to read. This intrinsic motivation is the lasting effect that a reading incentive program aims to achieve.
Unfortunately, this research indicates that the program does not achieve its goal on this component.

**Limitations of Study and Suggestions for Future Research**

Upon completion of this study it becomes clear that certain limitations do exist. One limitation dealt with size of the sample. Because the principal researcher used his own school environment from which to gather the sample, the number of students in that environment limited the sample number. The final number of students involved in the research was 27. These 27 students were then divided into two groups, control and experimental, and then each group was broken into three categories of initial reading motivation. These small sample sizes may have affected the ability to detect differences among groups. Further investigation may wish to use a sample size larger than 30, which is typically recommended when examining group differences (Gay, 1996).

Another limitation was the length of the study. This study took place over the course of eight weeks near the end of the school year. These eight weeks consisted of two weeks of pre-treatment data being gathered and then two weeks of post-treatment data, leaving only four weeks of actual treatment. The question could be raised as to whether this was enough time for a reading incentive program to have a lasting effect. Future researchers may want to conduct a reading incentive program treatment for a longer period of time.

At the conclusion of this research, several new questions arose. Future researchers may want to look at whether different grade levels have different results, or if the kinds of incentives offered will have an effect on the time spent reading by students.
Further research may also lead investigators to examine if actual reading ability is affected with a long-term reading incentive program. Lastly, it would be interesting to track students further down the road after the use of a reading incentive program to determine if the effects of a reading incentive program are long lasting.

The effects of a reading incentive program are an area of education where more research is needed and encouraged. In this age of increased accountability, even down to how well, and how much, students read independently, teachers are looking for ways to motivate students to read. Schools and teachers have looked to increase motivation with reading incentive programs. These incentive programs have been gaining widespread popularity as a tool to increase students’ motivation to read. Along with this comes the goal of many educators, which is to promote intrinsic motivation in their students so they will want to invest free time in learning (Pintrich & Schunk, 1996). Along with this goal comes the desire of teachers to want to reward students for good effort and hard work. A reading incentive program seems to fit into working towards both of those ends. Because educators are increasingly implementing reading incentive programs in their classrooms, it becomes very important to know what effect they are having on students’ motivation to read (Jacobsen, 2000).

The overall conclusion from this research is that reading incentive programs may motivate many children to read more independently than they might otherwise have read. When exposed to a reading incentive program, student’s time spent reading can be predicted to increase. However, this research also shows that a reading incentive program has, in the end, little or no effect on a student’s intrinsic motivation to read.
Therefore, educators should implement reading incentive programs in their classrooms with specific goals in mind. If one wants to motivate children to read more independently, just for the sake of reading more, then reading incentive programs may be a viable option. However, if the educator wishes to affect the internal, natural motivation of their students, perhaps other methods should be considered. Research has not shown reading incentive program to be consistently reliable or effective in this area. More research is needed to determine long term effects of reading incentive programs, as well as which types of programs are the most successful.
REFERENCES


APPENDIX A

MOTIVATION FOR READING QUESTIONNAIRE-REVISED

Selected questions chosen by the researcher for the purposes of this study.
The Motivation for Reading Questionnaire-Revised
Wigfield and Guthrie, 1997

Directions: Listed below are statements about reading. Please read each statement carefully. Then circle the number that best represents how you feel about the statement. There are no right or wrong answers. Use the following:

1 = very different from me
2 = somewhat different from me
3 = somewhat like me
4 = a lot like me

1. I know that I will do well in reading next year.
   1 2 3 4 5

2. I am a good reader.
   1 2 3 4 5

3. I learn more from reading than most students in the class.
   1 2 3 4 5

4. If the teacher discusses something interesting I might read more about it.
   1 2 3 4 5

5. I have favorite subjects that I like to read about.
   1 2 3 4 5

6. I read to learn new information about topics that interest me.
   1 2 3 4 5

7. I read about hobbies to learn more about them.
   1 2 3 4 5

8. I like to read about new things.
   1 2 3 4 5

9. I enjoy reading books about people in different countries.
1. I read stories about fantasy and make believe.

2. I like mysteries.

3. I make pictures in my mind when I read.

4. I feel like I make friends with people in good books.

5. I read a lot of adventure stories.

6. I enjoy a long, involved story or fiction book.

7. I like having the teacher say I read well.

8. My friends sometimes tell me I am a good reader.

9. I like to get compliments for my reading.

10. I am happy when someone recognizes my reading.
20. My parents often tell me what a good job I am doing in reading.

21. Grades are a good way to see how well you are doing in reading.

22. I look forward to finding out my reading grade.

23. I read to improve my grades.

24. My parents ask me about my reading grade.

25. I try to get more answers right than my friends.

26. I like being the best at reading.

27. I like to finish my reading first before other students.

28. I like being the only one who knows an answer in something we read.

29. It is important for me to see my name on a list of good readers.

30. I am willing to work hard to read better than my friends.
APPENDIX B

STUDENT READING LOGS
# Student Reading Log

**Name:** ____________________  

**Week of** ____________________

<table>
<thead>
<tr>
<th>Day</th>
<th>Minutes I read:</th>
<th>I read:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>_______</td>
<td>___a book</td>
</tr>
<tr>
<td>Tuesday</td>
<td>_______</td>
<td>___a magazine</td>
</tr>
<tr>
<td>Wednesday</td>
<td>_______</td>
<td>___newspaper</td>
</tr>
<tr>
<td>Thursday</td>
<td>_______</td>
<td>___a comic book</td>
</tr>
<tr>
<td>Friday</td>
<td>_______</td>
<td>___other</td>
</tr>
<tr>
<td>Saturday</td>
<td>_______</td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td>_______</td>
<td></td>
</tr>
</tbody>
</table>

*Mark any that you read Independently.*

**Parent Signature:** ____________________________________________
APPENDIX C

READING INCENTIVE PROGRAM LEVELS
<table>
<thead>
<tr>
<th>Minutes of Reading</th>
<th>Prize (incentive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>fruit treat</td>
</tr>
<tr>
<td>360</td>
<td>Homework coupon (hc), fruit treat (ft), extra recess (er)</td>
</tr>
<tr>
<td>540</td>
<td>Baseball ticket plus HC, FT, or ER</td>
</tr>
<tr>
<td>720</td>
<td>Candy bar plus HC, FT, or ER</td>
</tr>
<tr>
<td>900</td>
<td>HC, FT, or ER (pick two)</td>
</tr>
<tr>
<td>1000</td>
<td>Baseball Homerun</td>
</tr>
<tr>
<td>1080</td>
<td>HC, FT, or ER (pick two)</td>
</tr>
<tr>
<td>1260</td>
<td>Restaurant certificate</td>
</tr>
<tr>
<td>1440</td>
<td>To be determined</td>
</tr>
<tr>
<td>1620</td>
<td>To be determined</td>
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</table>
APPENDIX D

PARENTAL PERMISSION LETTER
Parental Permission

Invitation to Participate: Your child has been invited to participate in a research project conducted through the University of Northern Iowa. The University requires that you give your signed agreement to allow your child to participate in this project. The following information is provided to help you make an informed decision whether or not to participate.

Purpose: The purpose of this study is to examine sixth-grade student's motivation to read by reading incentive programs. The study period will be starting in March continuing until the end of April.

Procedures: Your child will be asked to log the number of minutes he or she reads outside of school time. I will provide the log sheet for your child. I will also ask your child questions about why he/she reads and what motivates them to read.

Risks: Participation in this study will not add any risk to your child. Information gathered will no way affect your child's regular school grade.

Benefits: Participants in the proposed study will have no direct benefits to your child. The data collected will be used to examine if reading incentive programs affect student motivation to read.

Confidentiality: All data collected will be kept confidential. Names of the children participating in this study will not be used. Numbers will be assigned to each child for identification purposes.

Right to Refuse or Withdraw: Your child's participation is completely voluntary. He or she is free to withdraw from participation at any time or to choose not to participate at all, and by doing so, your child will not be penalized or lose benefits to which he/she is otherwise entitled.

Questions: If you have questions about the study, you may contact me at 319-553-2833 or Dr. Gregory Stefanich, faculty advisor at the College of Education at the University of Northern Iowa 319-273-2167. You can also contact the office of the Human Participants Coordinator, University of Northern Iowa, at 319-273-2748, for answers to questions about rights of research participants and the participant review process.

I am fully aware of the nature and extent of my child's participation in this project as stated above and the possible risks arising from it. I hereby agree to allow my son/daughter to participate in this project. I have received a copy of this form.

_________________________   _______________________
Signature of parent/guardian               Date

_________________________
Printed name of parent/guardian

_________________________
Printed name of child participant

_________________________   _______________________
Signature of investigator               Date