

Implementing a Token Economy and Accelerated Reader to Motivate First Grade  
Students to Read

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A Special Project

Presented to

Dr. Robert P. Kraig

Heritage University

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In Partial Fulfillment  
of the Requirements for the Degree of  
Masters in Education

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Tina Mercer

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FACULTY APPROVAL

Implementing a Token Economy and Accelerated Reader to Motivate First Grade

Students to Read

A Master's Special Project

by

Tina Mercer

Approved for the Faculty

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## ABSTRACT

### Implementing a Token Economy and Accelerated Reader to Motivate First Grade Students to Read

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The purpose of this project was to determine if using a token economy in combination with Accelerated Reader would motivate low students in a first grade class to read more and assist in getting them to grade level in reading.

The following steps occurred: Permission was received from the Principal. Students were selected. Token Economy was explained and implemented to students in the low group. Accelerated Reader (AR) was administered. Data from students' first AR test to the final test was compiled. Students were given a survey. Data was analyzed

The results of using a token economy in combination with AR showed that students in the lower group had an average equal to and greater than the students in the higher group, but the growth was not significant. The researcher will

continue to use a token economy in combination with Accelerated Reader to motivate students to read.

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## CHAPTER 1

### Introduction

#### Background for the Project

In 2002 President Bush enacted No Child Left Behind (NCLB). This law was created to raise the educational expectations of the nation and to ensure that “no child was left behind.” The Federal mandate of No Child Left Behind (NCLB) put schools and teachers in a position to ensure that students meet proficiency in reading by the end of the 2013-2014 school year. The Reading First initiative was authorized by NCLB and its focus was on bringing early reading instruction up to date with scientifically based research on reading and how children learn to read. The U.S Department of Education (2002) identified five key areas of effective reading instruction. The five scientifically based reading research components were phonemic awareness, phonics, fluency, vocabulary, and comprehension. (<http://www.ed.gov/teachers/how/read/edpics.jhtml>)

Accelerated Reader (AR) was a program known to provide valid and reliable feedback to students on comprehension of books students had read. ([http://www.en.wikipedia.org/wiki/Accelerated\\_Reader](http://www.en.wikipedia.org/wiki/Accelerated_Reader)). The feedback student’s received from the reports AR generated was also considered to be motivational.

AR reports were also useful to teachers to help guide instruction and monitor guided independent reading. AR was not a core reading curriculum but could be used as an interventional tool to motivate and improve student reading ability.

The use of a token economy in a classroom setting has been known to be effective in increasing desirable behaviors, especially amongst students who need extra structure or incentive. Tokens could be used as an extra incentive to motivate students to reach their academic goals. Rewards (or tokens) should be administered to students once they have displayed the desirable behavior.

Student motivation was a key factor in student achievement. Without motivation very little learning takes place. Some students at Mt.Pilchuck lacked the motivation to read. Not all first grade students were reading at grade level and the researcher wanted to find out if using Accelerated reader in combination with the use of a token economy would motivate students to read more and assist in getting them to grade level by the end of the year.

#### Statement of the Problem

Students in first grade were required to be at reading grade level by the end of their first school year. The students in the lower reading groups at Mount Pilchuck Elementary School were not currently reading at grade level. The students appeared to lack motivation to practice reading and were not reading at home.

Reading was difficult for the students and they needed to be at grade level at the end of the year in order to have maintained progress in meeting Average Yearly Progress (AYP).

#### Purpose of the Project

The purpose of this study was to determine whether using a token economy in combination with the Accelerated Reader program would motivate students in the lower groups to read more, and assist in getting them to grade level in reading. The researcher also used a survey to find out how the students felt about reading and taking AR tests. AR was used by many of the teachers at Mount Pilchuck and the researcher sought to discover if it was a contributing factor to motivate students and assist in getting them to grade level.

#### Delimitations

This project was delimited to 25 first grade students in the researcher's classroom enrolled at Mount Pilchuck Elementary School during the 2009-2010 academic school year. The classroom consisted of 25 students; 12 male and 13 female. Of the 25 students one student was on an Individualized Education Plan (IEP) for reading, writing, math, speech, and also had social goals. Another student was on an IEP for math, and two others also received services for speech. There were four students enrolled in the English Language Learner (ELL)

program. The study group was broken into two groups, the high and low as determined by the beginning Accelerated Reader reading level.

Mount Pilchuck Elementary School was located in Lake Stevens, Washington, in Snohomish County. The population of the city of Lake Stevens was reported as 7,200, but the Greater Lake Stevens area was approaching 30,000 in population. Lake Stevens was formerly a mill town based on the timber industry as well as fishing and agriculture and had become primarily a bedroom community for Everett and Seattle commuters. In September of 2009, the grades K-5 Mount Pilchuck Elementary School served 536 students of which 86.0% of the students were Caucasian, 3% Hispanic, 4.2% Asian, and .6% Black and 1.1% American Indian. Out of the total enrollment, 30.9% of the students received free or reduced price meals. Additionally, 19.5% were in Special Education, and 2.2% were Transitional Bilingual.

There were 29 classroom teachers with 37.9% having at least a Master's Degree and 11.1 average years of teaching experience. Out of the 29 classroom teachers, 27 taught core academic classes. Classes taught by teachers meeting NCLB highly qualified (HQ) definition were 100%.

#### Assumptions

For the purpose of this study, the following assumptions were believed to be true:

1. All students tried their best on the Accelerated Reader tests.
2. All students read at home.
3. All students read their books themselves.
4. Some students needed assistance in having questions read to them during the test.
5. All students in the lower reading groups answered honestly on the survey.

#### Hypothesis

First Grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will increase average grade level growth equal to or greater than students in the higher reading group as measured by Accelerated Reader test results. First grade students in the lower reading groups will express increased confidence in passing Accelerated Reader tests.

#### Null Hypothesis

First Grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will show

no increase in their average grade level growth than students in the higher reading group as measured by Accelerated Reader test results. First grade students in the lower reading groups will express no increased confidence in passing Accelerated Reader tests.

### Significance of the Project

This project was important to the researcher, as well as others at Mt. Pilchuck Elementary because it evaluated the effectiveness of first graders who used the Accelerated Reader program as a supplemental reading intervention tool to motivate students to read more and assist in getting them to grade level by the end of the academic school year. The results of this study would influence whether this researcher, as well as her colleagues, would continue to use the Accelerated Reader program as a supplemental intervention along with a token economy to get students to read more, feel more confident in their reading ability, and assist in getting them to grade level.

### Procedure

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

1. A review of selected literature was conducted at Mt. Pilchuck Elementary School, and selected articles collected via the World Wide Web.

2. Permission to conduct research on students was received from the Mt. Pilchuck elementary school principal, Chris Larson (see Appendix A),
3. A survey was developed and approved by The Mt. Pilchuck elementary school principal, Chris Larson (see Appendix B),
4. Token Economy was explained to students.
5. A chart was created and posted that showed each week a student passed an Accelerated Reader test.
6. Accelerated Reader program administered to First Graders.
7. Data was collected on students test to determine their Accelerated reading level.
8. Progress was Monitored and students who passed a test with 80% or higher were moved to the next level.
9. The data from each student's first test to their final test was compiled (see Appendix C).
10. Students were given a survey to determine if students felt like they were better readers, enjoyed reading more and were more confident in taking Accelerated Reader tests.
11. Summary, conclusions, and recommendations conclude the study.

#### Definition of Terms

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

extrinsic rewards. These types of rewards came from the exterior.

Examples were material objects (stickers, candy, tickets).

intrinsic motivation. Intrinsic motivation was a type of motivation that came from within the person. They were self motivated to achieve a certain goal.

intrinsic rewards. These types of rewards were given within themselves. The feeling of excitement, accomplishment, and pride were examples of intrinsic rewards.

token economy. A system that involved rewarding students for passing an Accelerated Reader test by 80% or above which used a token to celebrate passing the test and moving to the next reading book level. All students received a star on their chart. Students in the lower reading group also received a ticket that could be exchanged for a small toy, a sticker, or lunch with the teacher/researcher once they received a certain quantity of tickets.

#### Acronym

AR. Accelerated Reader

AYP. Adequate Yearly Progress.

ELL. English Language Learner.

ESEA. Elementary and Secondary Education Act

IEP. Individualized Education Plan

LSSD Lake Stevens School District

MP Mount Pilchuck

NCLB. No Child Left Behind

NRP. National Reading Panel

SBRR. Scientifically Based Reading Research

## CHAPTER 2

### Review of Selected Literature

#### Introduction

This chapter has been organized around the following topics: (a) No Child Left Behind, (b) Reading Instruction, (c) Accelerated Reader, (d) Token Economy, (e) motivation, and (f) summary.

#### No Child Left Behind

In January 2002, President Bush signed into law the No Child Left Behind Act (NCLB) as a reauthorization of the Elementary and Secondary Act of Education (ESEA). This particular act brought about many changes in education nationwide. The purpose of NCLB was to ensure that “no child is left behind”. For this study the researcher looked at the changes brought about particularly in the area of improving reading achievement and reading instruction as well as options for meeting those requirements.

NCLB mandated that all public school children should be proficient in reading by the end of the 2013-2014 school years. States were required to assess students in reading and to hold schools and districts accountable for ensuring

students make Adequate Yearly Progress toward meeting this deadline. (Learning Point Associates, 2002, 2007) ([www.learningpt.org](http://www.learningpt.org)).

Adequate Yearly Progress (AYP) in Washington was a measure of year to year student achievement on the state assessment in reading and math. It required that states develop a baseline for students to achieve proficiency as measured by math and reading scores. Each year the state must have shown progress in gradual increments so that by 2013-2014, 100% of students will achieve proficiency in each subject area. ([www.k12.wa.us/ESEA/pubdocs/whatisAYP.doc](http://www.k12.wa.us/ESEA/pubdocs/whatisAYP.doc)). (p.1). There were two ways a school could make AYP. One way was to demonstrate that all students and required groupings (race/ethnicity, students with disabilities, limited English proficient students, and students who are economically disadvantaged) meet or exceed the state assessment proficiency goals in both reading and math. The alternative was by meeting the “safe harbor” provision.

([www.k12.wa.us/ESEA/pubdocs/whatisAYP.doc](http://www.k12.wa.us/ESEA/pubdocs/whatisAYP.doc)). (p.2). This provision permitted schools to still make AYP if one or more subgroups did not meet the goals if the percentage of students who did not make AYP in that school declined by at least ten percent in each student category and the other indicator (graduation rate for high school or unexcused absences for elementary and middle school) was met.

When a school didn't meet AYP for two consecutive years, they enter step one of school improvement. If they met AYP the following year they stay at step one; if they didn't meet the requirements, they moved to step two. Once they have moved to step two they must meet AYP for two consecutive years in order to exit school improvement. ([www.k12.wa.us/ESEA/pubdocs/whatisAYP.doc](http://www.k12.wa.us/ESEA/pubdocs/whatisAYP.doc)).

Title I, Part B, Subpart 1 of the ESEA, as amended by the NCLB Act of 2001 authorizes Reading First. (U.S. Dept. of Ed.,2002) The Reading First initiative was a central part of NCLB. Denton (2003) noted that "Reading First is an ambitious effort to bring early reading instruction across the country up-to-date with new knowledge gained in recent years from high-quality, scientifically based research on the way children learn to read." ([www.sreb.org](http://www.sreb.org)). The primary goal of Reading First was to improve reading instruction and student performance in kindergarten through third grade. "By teaching all children to read well by the end of third grade, we will ensure that all students advance to later grades well prepared to achieve their full academic potential." (U.S Dept. of Ed, 2002). Reading First guidelines required reading programs to be based on scientifically based reading research(SBRR), the use of classroom-based screening, instructional, and diagnostic reading assessments, and provided funding for professional development. In addition, the U.S Department of Education (2002)

stated that “scientifically based reading research has identified five essential components of reading instruction. The five components are as follows: Explicit and systematic instruction in: phonemic awareness, phonics, vocabulary development, reading fluency, and reading comprehension. The research demonstrated that children need to master skills in these five interrelated areas in order to become proficient, successful readers.”

(<http://www.ed.gov/teachers/how/read/edpics.jhtml>)

### Reading Instruction

The National Reading Panel (NRP) issued a report in 2000 that responded to a congressional mandate to help parents, teachers, and policy makers identify key skills and instructional methods central to reading achievement. The panel identified five areas they found to be critical to effective reading instruction. These were five components of scientifically based reading research (SBRR): phonemic awareness, phonics, fluency, vocabulary, and comprehension. (Al Otaiba et al., 2005).

Hoover (2002) stated that “Phonemic awareness is the building block for learning to decode text. It is the ability to hear, identify and manipulate the individual sounds in spoken words (phonemes). A phoneme is an abstract linguistic unit and is defined as the most basic unit of language capable of making

a difference in meaning.” (Hoover, 2002,) ( p.9). In conjunction with hearing the phonemes students need to be able to identify and use that knowledge of phonemes explicitly in speaking and playing with words. Phonemic awareness was the understanding that the sounds of spoken language work together to make words. According to U.S Department of Education (2002) research has provided ample evidence that “direct, systematic instruction in sound-to letter correspondences provides an effective intervention to increase the progress of children with lower literacy rates to the level of attainment by their peers.” (p.3) According to Baker (2007) in order for students to learn phonemic awareness, teachers needed an understanding of the “developmentally appropriate phonemic awareness tasks children need to master in order to develop good word recognition and comprehension skills.” (Baker, 2007, p.235). Also according to Harn (2008) “Providing early intervention on phonological processing not only improves student literacy skills but more important, students receiving these interventions closed the gap between themselves and typically developing peers and maintained this successful level of performance later in schooling.” (p. 116).

Phonics was the understanding that there was a predictable relationship between phonemes and graphemes - the letters and spellings that represent those sounds in written language. Readers used these relationships to recognize familiar

words accurately and automatically and to decode unfamiliar words. Phonics instruction helped all students learn to decode, spell, and develop fluency with unknown words. Whereas instruction in phonemic awareness only required students to recognize the individual sounds contained in words, phonics develops students' ability to match these sounds to letters and groups of letters.

“Fluency is the ability to read text automatically, accurately and quickly. It provides a bridge between word recognition and comprehension. Fluent readers recognize words and comprehend at the same time.” (US Department of Education 2002, p. 3). It was often neglected but was critical to developing comprehension. When students read slowly, laboring over words, comprehension was lost. “Effective strategies to build fluency include strategies such as echo reading, shared reading, modeled reading, peer tutoring and repeated reading.” (Al Otaiba, 2005) (p.390-1). “Rereading is most effective when teachers articulate the purpose of reading fluently and provide explicit modeling and feedback.” (NRP 2000).

According to the U.S Department of Education (2002) Vocabulary was a building block of language and necessary for both verbal and written communication. There were four types of vocabulary. “Listening vocabulary – the words needed to understand what is heard, speaking vocabulary – the words

used when speaking, reading vocabulary – the words needed to understand what is read, and writing vocabulary – the words used in writing.” (p.4) There were many steps teachers could take to assist students in their vocabulary development. One of these was explicitly teaching the meaning of individual words. Another was to teach strategies such as the use of context, word parts, and dictionary use so students can independently unlock the meanings of unknown words. Encouraging reading a variety of genre also could improve vocabulary. Watts and Graves (2007) found “developing enthusiasm for word learning, finding words interesting and discovering the power of words will also help motivate children with vocabulary development.” (p.15)

Comprehension was a strategic process of constructing meaning from a text through the use of context clues and prior knowledge. Developing students’ comprehension was an essential element in reading instruction and was stressed in reading curriculums. The foundation for developing comprehension could be laid as soon as children begin listening to stories. Teachers (and parents) could check for student understanding before, during and after reading. SBRR provided instructional routines that were interactive. They involved routines that require students to be interactive. Al Otaiba et al (2005) stated “They involved frequent teacher-student dialog for the purpose of helping students learn to activate prior

knowledge construct meaning from text summarize and interpret what they have learned and incorporate this knowledge into their existing schemas. Questions should develop higher order thinking skills not just factual recall. Comprehension strategies include main idea, story grammar, prediction, and activation of background knowledge, sequence of events, and cause and effect. Each comprehension strategy should be introduced one at a time, followed by teacher feedback.” (p.392) Duke (2000) mentioned that “programs that are well aligned with SBRR were consistent with best practices that emphasize the need to consistently apply strategies in a variety of genres to support wide reading.” (p.212).

### Accelerated Reader

Accelerated Reader (AR) was a computerized progress-monitoring assessment and personalized practice tool that provides reliable and valid feedback on comprehension of books and other materials that students have read. ([http://www.en.wikipedia.org/wiki/Accelerated\\_Reader](http://www.en.wikipedia.org/wiki/Accelerated_Reader)). For students, this feedback was motivational (Husman, Brem, & Duggan, 2005; Sadusky & Brem, 2002; Samuels & Wu, 2003). For teachers, this assessment information was used to carefully monitor and guide each student’s independent reading practice. (Paul, 2003).

AR was intended to enable guided independent reading through the assessment information it generated. Guided independent reading practice has been shown to accelerate reading growth for all students, regardless of ability. (Nunnery, Ross, & Goldfedder, 2003; Nunnery, Ross, & McDonald, 2006; Paul, 2003; Samuels & Wu, 2003; Topping, Samuels, & Paul, 2007).

AR helped teachers closely monitor several types of reading practice recommended by the National Reading Panel (National Institute of Child Health and Human Development, 2000), including reading aloud, paired reading and independent reading. There were three main steps to AR. First the student selected and read a book. Then the student took a quiz on the computer that assessed the student's comprehension of key elements of the book's content. AR scored the quiz, generated a report describing their performance and the teacher could use the report to guide instruction and monitor student's independent reading. Teachers were able to determine appropriate reading levels and assist students in creating reading goals based upon their test scores. The AR program could be effective in increasing student motivation to read more, longer, and harder books. (<http://www.readingonline.org>). Students reading goals were based on their reading grade equivalent score from a standardized test (often the STAR reading test) coupled with the amount of time the student was able to devote to

reading. According to the Florida Center for Reading Research (2004) “Books are assigned a point value based on the number of words contained and its reading difficulty, as derived from a formula based on the Flesch-Kincaid readability index.” (<http://www.fcrr.org>). Books in the school library were color coded to designate different text readability levels. When in the library, students selected color-coded books that conform to their zone of proximal development. (Samuels, 2003).

Several studies using large numbers of subjects in elementary schools in Tennessee that had purchased the AR program outperformed their counterparts. It was found that AR students spent more time on reading than their counterparts not using the AR program. (Paul, Swanson, Zhang and Hehenberger, 1997). Also, Topping investigated the use of the AR with sixth-grade students. The two sixth grade classes that used the AR had greater gains in reading than their counterparts that did not use the AR program. (Vollands, Topping, and Evans, 1999).

According to Samuels and Wu (2004) studies in Florida indicated that AR participants gained significantly more on the passage comprehension and total comprehension than students not using AR. Results provided strong support for the efficacy of the AR program in supporting reading growth. (Samuels and Wu, 2004). In 2003 Samuels and Wu found that, after six months, third- and fifth-

grade students that used AR demonstrated twice the gain in reading comprehension as those that did not use AR.

[http://en.wikipedia.org/wiki/Accelerated\\_Reader](http://en.wikipedia.org/wiki/Accelerated_Reader)). Additionally, the Education Commission of the States has reviewed the software. In October 2006, AR was voted as one of the best reading software for building students' vocabulary and reading comprehension by readers of eSchool News.

[http://en.wikipedia.org/wiki/Accelerated\\_Reader](http://en.wikipedia.org/wiki/Accelerated_Reader)).

It should be noted that Accelerated Reader was not intended as a core reading curriculum. It was most commonly used as a recreational/motivational reading program. (Paul, VanderZee, Rue & Swanson, 1996). It was a progress monitoring tool. It supported direct, systematic reading instruction and should not be considered the only tool to teach reading. "AR promotes guided independent reading practice- reading with feedback and accountability – which has been shown to improve student reading ability." (Nunnery, Ross, & Goldfedder, 2003; Nunnery, Ross, & McDonald, 2006; Paul, 2003; Samuels & Wu, 2003; Topping, Samuels, & Paul, 2007). (p.1)

### Token Economy

Token economies were based on principles of operant conditioning and the work of BF Skinner. According to James Jones, PhD, Skinner studied and wrote

about behavior modification through the use of consequences and reinforcement. ([http://wik.ed.uiuc.edu/index.php/Token\\_economy](http://wik.ed.uiuc.edu/index.php/Token_economy) ). A token economy was defined as a form of behavior modification designed to increase desirable behavior and decrease undesirable behavior with the use of tokens. Individuals received tokens immediately after displaying desirable behavior. The tokens were collected and later exchanged for a meaningful object or privilege. ([www.minddisorders.com/Py-Z/Token-economy-system.html](http://www.minddisorders.com/Py-Z/Token-economy-system.html)).

Ingersoll (1988) believed that in school settings these programs were appropriate because “daily routines were clearly established, adult supervision was consistent and access to reinforcers could be strictly controlled.” (Ingersoll, 1988) (p.87). In this particular study, the researcher administered tokens based upon a student passing an AR test with 80% accuracy or better. Students also received verbal praise by the teacher along with the token. According to Haber (1973), an approach to maintaining behavior change “is to teach the student the naturally occurring reinforcing contingencies of the academic behavior.” This, he believes is accomplished by accompanying the dispensing of tokens with verbal praise by the teacher. “By using verbal praise and eventually withdrawing the tokens, the ultimate reinforcers for the behavior will result in good grades, teacher approval and parental approval.” p.282.

Klimas and McLaughlin (2007) said “classroom token reward systems have been effective across various grade levels, school populations and academic and social behaviors.”(p.72) Tokens could be given to individual students or groups of students. According to Thomas R. McDaniel (1987), “token economies could be difficult to administer and manage with whole classrooms. It has been found that tokens could be more easily utilized with those few students who need extra structure and incentive.” (p.391). Token economies could be used to motivate students and aid the teacher in helping students achieve academic goals as well as to help manage behaviors. Rewards and tokens were contingent upon a student demonstrating a particular behavior. According to Coots (2000) “the reward needs to arrive soon enough so the student does not lose the intensity and meaning of receiving the reward. Often having tokens which may be earned daily and other items which the student can save keeps the system working effectively.” ([www.icando.org/reinforcement.html](http://www.icando.org/reinforcement.html)) McDaniel (1987) also stated that “ token economies are ways by which students can see their progress toward some longer range goal that is contingent upon the accumulation of successive approximations toward the goal. Tokens mark the small steps and reward them.” (p.389)

### Motivation

Student achievement was the motivation of the students themselves.

Without student motivation little learning took place. For the purpose of this study the researcher looked at intrinsic and extrinsic motivation. Intrinsic motivation was the desire to do something for its own sake. Intrinsic motivation was said to come from within – it's the pleasure we get in doing something well. Extrinsic motivation was an incentive that was not part of the activity – it was motivation that comes from outside. Some forms of extrinsic motivators included students receiving stickers, candy, stars and tokens when desired behavior was exhibited. Educators debate whether extrinsic rewards should be used, although they agree that intrinsic motivation was desirable and should be encouraged. As Cameron and Pierce demonstrated in their 1994 meta-analysis of 6 experimental studies of learning motivation, “properly administered extrinsic motivators do not extinguish intrinsic motivation – in fact, they can actually enhance it.” (p.384).

“The AR program can be used as the basis for a reading incentive system. The decision to use AR information such as book reading level or percentage correct, as part of an extrinsic reward program should be made by each teacher based on the needs of her students. Extrinsic rewards are by no means essential to reading motivation, but they can be a powerful tool, especially for students who need a “jump start” to discover the love of books.” (November 1997, Toward a

Balanced Approach to reading Motivation: Resolving the Intrinsic-Extrinsic Rewards Debate) (p.1). Over a quarter-century of accumulated research provides little evidence that rewards decreased intrinsic motivation (Eisenberger and Cameron, 1996). In fact, as Linda Gambrell and Barbara Ann Marinak (1997) wrote,

“When incentives are linked to the desired behavior and promote engagement in the desired behavior, motivation can become self-determined and can foster high-quality learning” (p.215)

The Institute for Academic Excellence (1997) stated that “rewards are particularly helpful at the beginning stages of skill development to jump-start a child’s interest. Once a child becomes more expert at a skill, rewards are less necessary because the practice of the skill itself then becomes more intrinsically motivating.” (p.3)

In this study, each student’s reading level was established early in the study. Students then had the opportunity to choose a book within their reading level, which gave them a sense of control. As mentioned by the Institute for Academic Excellence (1997) “when students have a sense of control, they have increased motivation, persistence, and belief that they can be successful.” (p.3) Students in this researchers class were pushed to read more difficult books and

progress in their reading level each time they passed an AR test. As students passed AR tests they were awarded with a token and immediate praise by the teacher. According to Elliot (2005), “appropriate praise is associated with more positive student self concepts and higher student achievement.” (p.2)

### Summary

The focus of this chapter was to address the available evidence to the topics of (a) No Child Left Behind, (b) Reading Instruction, (c) Accelerated Reader, (d) Token Economy, (e) Motivation. The methodology and treatment of the data are reported in Chapter 3.

The Federal mandate of No Child Left Behind (NCLB) put schools and teachers in a position to ensure that students meet proficiency in reading by the end of the 2013-2014 school year. The Reading First initiative was authorized by NCLB and its focus was on bringing early reading instruction up to date with scientifically based research on reading and how children learn to read. The National Reading panel identified five key areas of effective reading instruction. The five scientifically based reading research components were phonemic awareness, phonics, fluency, vocabulary, and comprehension.

Accelerated Reader was a program known to provide valid and reliable feedback to students on comprehension of books students had read. The feedback

student's received from the reports AR generated was also considered to be motivational. AR reports were also useful to teachers to help guide instruction and monitor guided independent reading. AR was not a core reading curriculum but could be used as an interventional tool to motivate and improve student reading ability.

The use of a token economy in a classroom setting has been known to be effective in increasing desirable behaviors, especially amongst students who need extra structure or incentive. Tokens could be used as an extra incentive to motivate students to reach their academic goals. Rewards (or tokens) should be administered to students once they have displayed the desirable behavior.

Student motivation was a key factor in student achievement. Without motivation very little learning took place. Some students at Mt.Pilchuck lacked the motivation to read. Not all first grade students were reading at grade level and the researcher wanted to find out if using Accelerated reader in combination with the use of a token economy would motivate students to read more and assist in getting them to grade level by the end of the year.

## CHAPTER 3

### Methodology and Treatment of the Data

#### Introduction

This chapter has been organized around the following topics: (a) Methodology, (b) Participants, (c) Instruments, (d) Design, (e) Procedure, (f) Treatment of the Data, (g) Summary. ----Provide a brief overview of the processes and procedures utilized in the conduct of the project.

#### Methodology

This research project was a combination of a few different research methods. It was Action Research, Quasi-experimental Research and Descriptive Research. It was Action Research because the purpose of the project was to motivate students in the lower reading group to read more and get them to grade level in reading. It was Quasi-experimental because even though the project was conducted in a real life setting like experimental, the researcher could not control all the variables. The survey that was given to the students at the end of the project was a form of Descriptive Research.

#### Participants

The participants of this study were the researchers First Grade students enrolled at Mt.Pilchuck Elementary School during the 2009-2010 school year. There were 25 students; 12 male and 13 female. Of the 25 students one student was on an Individualized Education Plan (IEP) for reading, writing, math, speech, and also had social goals. Another student was on an IEP for math, and two others also received services for speech. There were four students enrolled in the English Language Learner (ELL) program. The study group was broken into two groups, the high and low as determined by the beginning Accelerated Reader reading level. There were 15 students in the high reading group, with 7 being male, and 8 being female. In the lower reading group there were a total of 10 students; 5 male and 5 female. The students in the high reading group were at grade level whereas the students in the low reading group were not. The 10 students in the lower group were given the survey at the end of May 2010, after three months using the interventions mentioned below.

### Instruments

The Accelerated Reader program was the tool used to determine the student's reading level. The students were assisted in choosing books the researcher felt were at the students' zone of proximal development based on various classroom assessments. Once the student had read a story 3-5 times, they

took a computerized Accelerated Reader test that assessed their comprehension of the book. They were required to take 5 tests to determine at which level they could pass a test at 80% accuracy or above. After the students had taken 5 tests the researcher gathered the data and chose their average book level as a starting point at the beginning of March 2010. The average book level was the baseline (pretest) for each student's beginning AR level. The final AR test taken (passed at 80% or above) became the posttest at the end of May 2010, which marked the end of the study.

### Design

As stated above this research project was a combination of different research methods. It was Action Research because this project was developed to address the lack of adequate progress in reading for the lower reading group and their decreased motivation to read. The hypothesis was that with a token economy, students in the lower reading group would increase average grade level growth equal to or greater than students in the higher reading group as measured by AR test results. Since this action research was conducted by a teacher to address a specific concern for the 1<sup>st</sup> grade team, it was more persuasive, relevant and accessible for classroom teachers.

This study was also Quasi-Experimental research, because although it contained elements of a true experiment, not all variables could be controlled, and intact groups of students were used rather than random assignment. Variables that were not controlled included maturation and homogeneity of groups. The procedure used was a nonequivalent pretest-posttest control group design. The two groups were the lower reading group and higher reading group. Each group was given a pretest, the lower (experimental) group received the intervention of a token economy, and then both groups were given a posttest. The scores of pre and posttest were compared to determine if there were significant differences. There were threats to the validity of this study, due to its quasi-experimental nature. These included lack of randomization, lack of homogeneity of groups at baseline, and lack of blinding of the researcher to the intervention.

The use of a survey at the end of the study was used to find out how the students in the lower reading group felt about reading and their progress. This was a form of Descriptive Research, because it was used to provide an overall picture of the group's characteristics.

### Procedure

For this study the researcher sought to gather as much information about scientifically based reading instruction for students in elementary school,

particularly students at the emergent level. The researcher also wanted to gather information about the use of a token economy in the classroom with students as a motivational tool. In addition, the researcher was interested in gathering information about the Accelerated Reader (AR) program; its design and effectiveness with students in regards to motivation and use as an intervention tool to help students progress in their reading ability. Several articles were reviewed via the World Wide Web in regards to these topics.

Permission to conduct this research study with students from Mt. Pilchuck Elementary School was obtained from the principal, Chris Larson, at the beginning of the 2009-2010 school year. This included permission to administer a survey to the students in the lower reading group at the end of the study. The survey sought to find out if students enjoyed reading and taking AR tests. The researcher also wanted to know if the students felt confident taking AR tests and if they felt they were reading more difficult books then when the school year began.

Token economy was explained to the students in the lower reading groups. The students were told that when they passed an AR test at their determined level with 80% accuracy or above they would receive a ticket. The tickets could later be exchanged to buy something from the researcher. Items that could be purchased included small toys, stickers, and lunch with the researcher. The token economy

was implemented to serve as a motivator to engage the students in the lower reading group to read more.

The researcher also created and posted a chart that showed each week a student passed an AR test. The students were instructed to take at least one AR test a week. The chart was used as a celebration for passing a test and a reminder for students to take a test each week. It also provided the researcher a visual aide to monitor the progress of each student involved in the study. Once the students passed a test at their level with 80% accuracy or above, a star was added to the chart next to their name and they moved to the next AR reading book level.

Students were asked to take three AR tests at a level chosen by their teacher (the researcher) based on classroom reading assessments. The researcher sought to determine a book level where a student could pass a test but where it was still challenging. After the students had taken several AR tests, their average book level was then determined by the AR tests they had taken. Once the students had their level determined, they were expected to read a book 3-5 times at their specified level and take an AR test on the book. If the student passed a test with 80% accuracy or above they received a star on their chart and were instructed to read a book at the next level. If the student in the lower reading group passed the test with 80% accuracy or above, they not only received a star on their chart, but a

token was administered to the student and they were directed to move to the next AR book level. Students in the higher reading group also participated in the same way but without the incentive of receiving a token.

After three months the data from the students first test passed at 80% accuracy or above (considered the pretest) and the data from the final test passed at 80% accuracy or above (considered the post-test) was compiled. The range between their pretest and posttest was tabulated to determine their growth. A total mean score for the students in the high reading group was tabulated as well as a total mean score for the students in the lower reading group. The two scores were then compared to see which group had made the most gains. A *t* test was used to determine if the growth was significant.

The students in the lower reading group were given a survey at the end of the study. This survey was used to determine if the students felt like they were better readers, enjoyed reading more, and were more confident in taking AR tests. The survey also sought to determine if the students felt that they were reading more difficult books than at the beginning of the school year as a result of participating in the AR program.

Results of the study were examined, tabulated, and conclusions were drawn as to whether the researcher and her colleagues would continue to use the

AR program as an interventional tool to motivate students to read and assist in getting them to grade level in reading.

### Treatment of Data

The difference between the AR pre and post tests over the course of the study was used to determine each student's growth. The average mean scores of the students in the high reading group was compared to the average mean scores of the students in the low reading group to determine which group had made the most gains and to thus verify the use of a token economy in conjunction with the use of AR to motivate and assist students in progressing to grade level in reading.

A *t* test, found in the statpak was utilized between the pre and post test scores of the high and low reading groups to determine if there was any significant growth between the groups when the intervention of using a token economy and Accelerated Reader was applied. Excel was used to develop graphs.

### Summary

This chapter was designed to review the methodology and treatment of data related to the increase in Accelerated Reader book level through the intervention of token economy in conjunction with AR. The analysis of data and findings from this study are reported in Chapter 4.

## CHAPTER 4

### Analysis of the Data

#### Introduction

Chapter 4 has been organized around the following topics: (a) description of environment, (b) hypothesis, (c) results of the study, (d) findings, (e) discussion, and (e) summary.

#### Description of the Environment

The participants of this study were the researchers First Grade students enrolled at Mt.Pilchuck Elementary School during the 2009-2010 school year. There were 25 students; 12 male and 13 female. Of the 25 students one student was on an Individualized Education Plan (IEP) for reading, writing, math, speech, and also had social goals. Another student was on an IEP for math, and two others also received services for speech. There were four students enrolled in the English Language Learner (ELL) program. The study group was broken into two groups, the high and low as determined by the beginning Accelerated Reader reading level. There were 15 students in the high reading group, with 7 being male, and 8 being female. In the lower reading group there were a total of 10 students; 5 male and 5 female. The students in the high reading group were at grade level whereas the students in the low reading group were not. The 10 students in the lower group

were given the survey at the end of May 2010, after three months using the interventions of Accelerated Reader in conjunction with a token economy.

### Hypothesis

First Grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will increase average grade level growth equal to or greater than students in the higher reading group as measured by Accelerated Reader test results. First grade students in the lower reading groups will express increased confidence in passing Accelerated Reader tests.

### Null Hypothesis

First Grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will show no increase in their average grade level growth than students in the higher reading group as measured by Accelerated Reader test results. First grade students in the lower reading groups will express no increased confidence in passing Accelerated Reader tests.

### Results of the Study

The results of this study were analyzed in three different ways. First, the differences between pre and posttest for each group were compared. Next, the

mean differences between the two groups at posttest were compared. Finally, the results of the survey were analyzed and described.

The lower reading group had a pretest mean AR reading level of 0.96, and a posttest mean AR reading level of 1.8 (see Figure 1). A non-independent t-test to compare the means between pre- and posttest was completed. There was a statistically significant increase in reading level for the lower reading group ( $t = 12.24$ ,  $df = 9$ ,  $p = 0.05$ , critical value of  $t = 2.262$ ). In order to be considered significant, a score of at least 2.262 (critical value of  $t$ ) was needed, and the  $t$  value for this t-test was 12.24, clearly higher than the critical value. With an alpha level of 0.05, this indicates that there is less than a 5% chance of the results being due to chance.

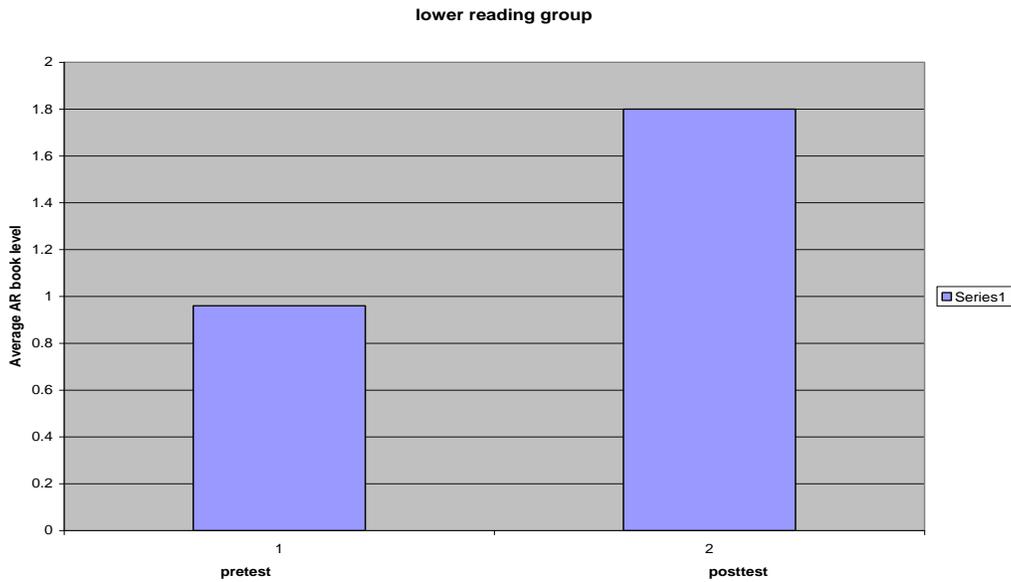


Figure 1

The higher reading group had a pretest mean AR reading level of 2.03, and a posttest mean AR reading level of 2.67 (see Figure 2). A t-test for nonindependent samples to compare the means between pre- and posttest was completed. There was a statistically significant increase in reading level for the higher reading group ( $t = 8.28$ ,  $df = 14$ ,  $p = 0.05$ , critical value of  $t = 2.145$ ). In order to be considered significant, a score of at least 2.145 (critical value of  $t$ ) was needed, and the  $t$  value for this t-test was 8.28, clearly higher than the critical value. With an alpha level of 0.05, this indicates that there is less than a 5% chance of the results being due to chance.

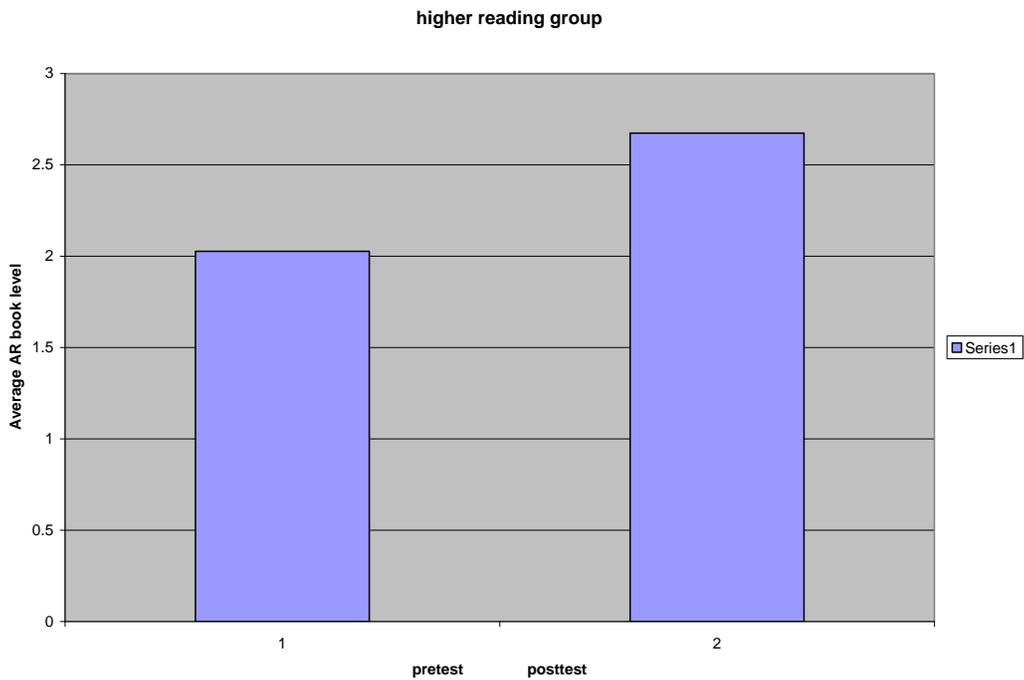


Figure 2

Figure 3 shows the comparison between the means of the difference scores for the two groups. The lower reading group had a mean difference score of 0.84, and the higher reading group had a mean difference score of 0.65. A t-test for independent samples to compare the mean difference scores between the two groups. There was not a significant difference between the mean difference scores of the two group ( $t = 1.78$ ,  $df = 23$ ,  $p = 0.05$ , critical value of  $t = 2.069$ ).

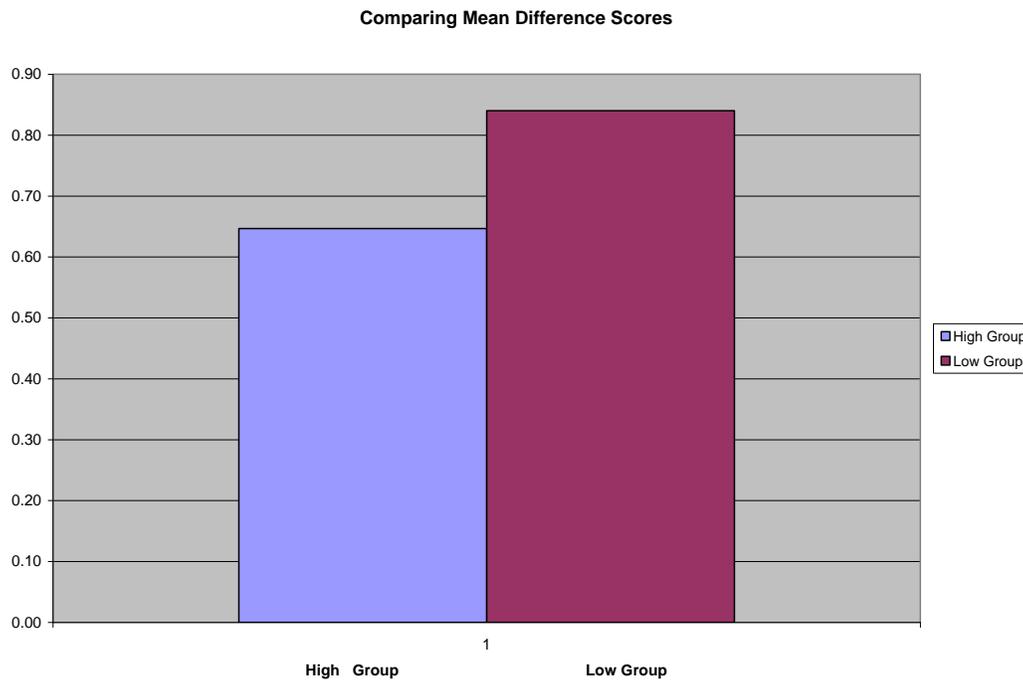


Figure 3

At the end of the study, a survey was given to the lower reading group to determine their feeling on reading and on AR (See Appendix B). Students were asked to respond on a 3-point scale: Smiley face (agree), Straight face (neutral), and Sad face (disagree). Students used these responses to indicate their level of agreement with five statements.

The first statement was “I like to read.” The results are presented in Figure 4. Of the 10 students, 7 agreed with this statement, 2 were neutral and 1 disagreed.

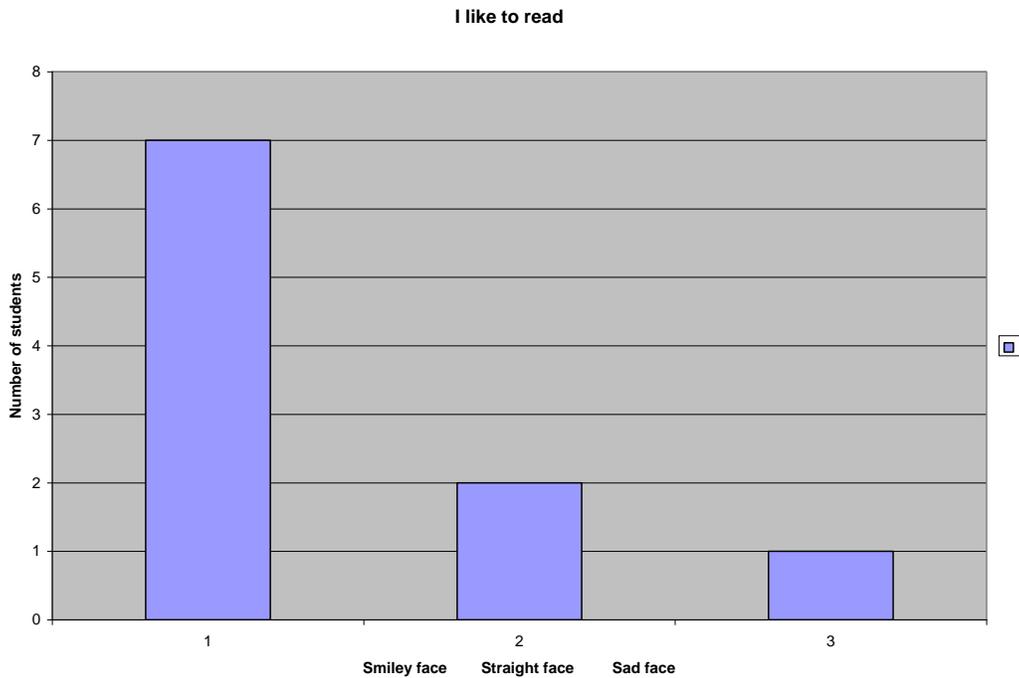


Figure 4

The second statement was “I like taking AR tests.” The results are presented in Figure 5. Of the 10 students, 7 agreed with this statement, 3 were neutral and none disagreed.

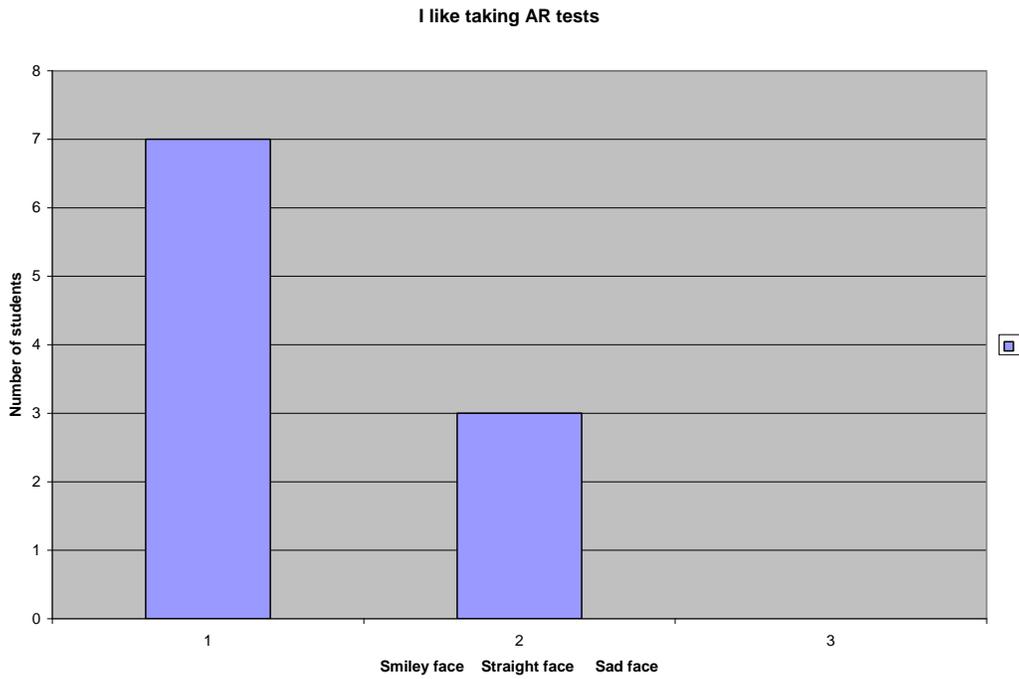


Figure 5

The third statement was “I do well on AR tests.” The results are presented in Figure 6. Of the 10 students, 8 agreed with this statement, 2 were neutral and none disagreed.

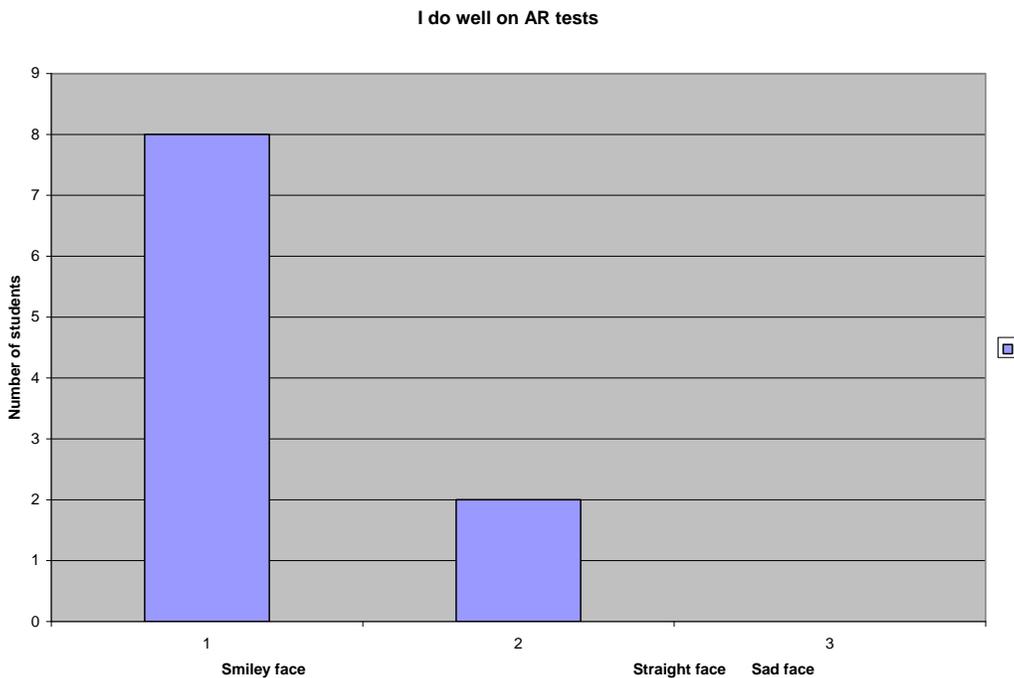


Figure 6

The fourth statement was “I like to read at home.” The results are presented in Figure 7. Of the 10 students, 6 agreed with this statement, 2 were neutral and 2 disagreed.

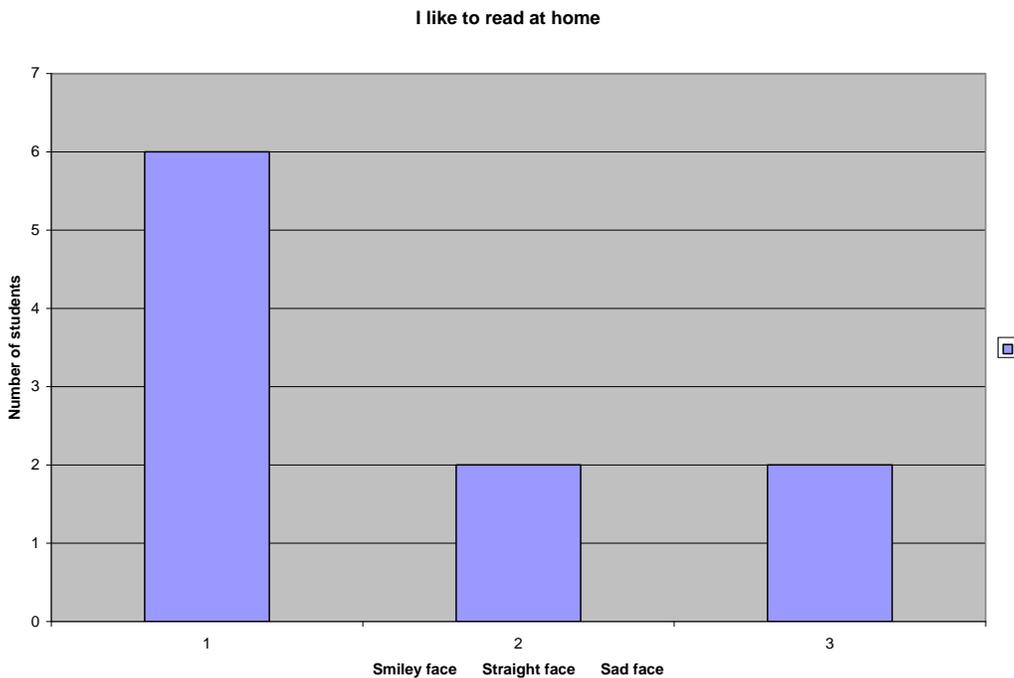


Figure 7

The fifth statement was “I am reading harder books then when I started this year.”

The results are presented in Figure 8. Of the 10 students, 8 agreed with this statement, 2 were neutral and none disagreed.

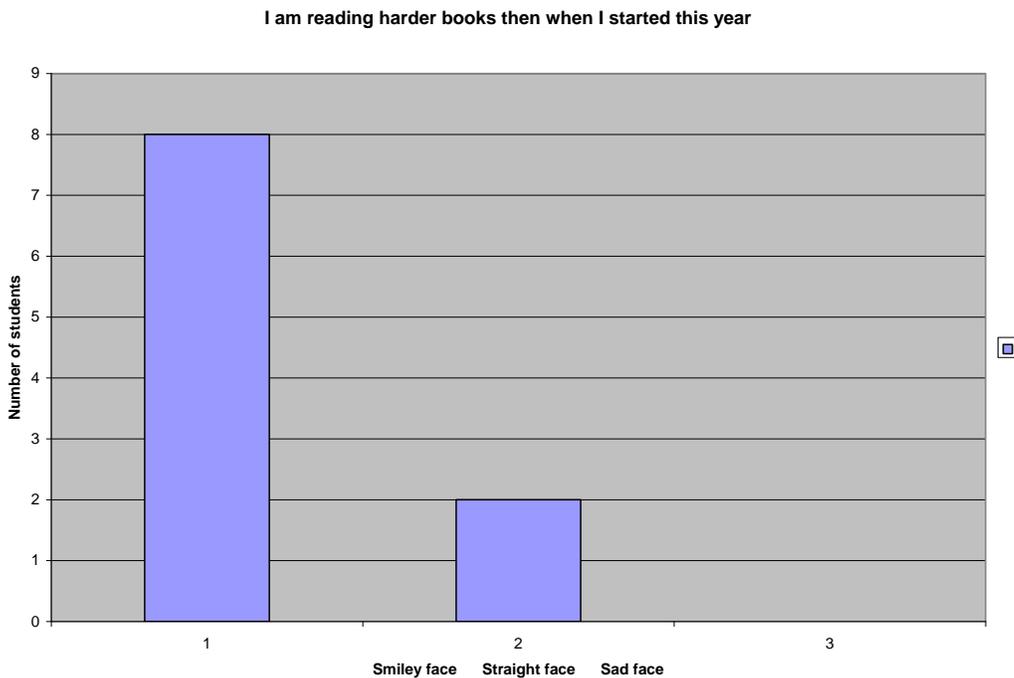


Figure 8

Findings

An analysis of the data above led this researcher to conclude that the hypothesis, first grade students in the lower reading group who receive teacher assisted reading instruction with motivation through a token economy will increase average grade level growth equal to or greater than students in the higher reading group as measured by Accelerated Reader test results, the students in the low reading group did have an average equal to and higher than the students in the higher group as measured by AR tests. The t test for independent samples showed

a value of 1.78 comparing the difference of AR reading level. In order to show significance a t value at  $p= 0.05$  of 2.069 was required. The study t value results of 1.78 did not allow the researcher to reject the null hypothesis and thus the researcher was unable to support the hypothesis. According to the survey, since 80% of students responded that they were confident in taking AR tests following the intervention, the null hypothesis was rejected and the hypothesis was supported.

### Discussion

This study, which was conducted during the 2009-2010 academic school year, involved 25 first grade students enrolled in the researcher's class at Mt.Pilchuck Elementary. There were 12 male and 13 female students involved in the study. Of the 25 students one student was on an Individualized Education Plan (IEP) for reading, writing, math, speech, and also had social goals. Another student was on an IEP for math, and two others also received services for speech. There were four students enrolled in the English Language Learner (ELL) program. The study group was broken into two groups, the high and low as determined by the beginning Accelerated Reader reading level. In the high group there were 7 male subjects and 8 female. In the low group there were 5 male subjects and 5 female.

The focus of this study was to determine whether using a token economy in combination with the Accelerated Reader program would motivate students in the lower groups to read more, and get them to grade level in reading. The researcher sought to discover if using a token economy with the lower group would increase their average grade level growth equal to or greater than the students in the higher group. The researcher also used a survey to find out how the students felt about reading and taking AR tests. The students' beginning AR level served as a pretest and their final AR test served as a post test. Students in the lower groups received the intervention using a token economy whereas the students in the high group did not.

The results of this study found there was a statistically significant increase for the lower reading group ( $t = 12.24$ ,  $df = 9$ ,  $p = 0.05$ , critical value of  $t = 2.262$ ). In order to be considered significant, a score of at least 2.262 (critical value of  $t$ ) was needed, and the  $t$  value for this  $t$ -test was 12.24, clearly higher than the critical value. With an alpha level of 0.05, this indicates that there is less than a 5% chance of the results being due to chance. There was also a statistically significant increase in reading level for the higher reading group ( $t = 8.28$ ,  $df = 14$ ,  $p = 0.05$ , critical value of  $t = 2.145$ ). In order to be considered significant, a score of at least 2.145 (critical value of  $t$ ) was needed, and the  $t$  value for this  $t$ -test was

8.28, clearly higher than the critical value. With an alpha level of 0.05, this indicates that there is less than a 5% chance of the results being due to chance. When looking at the comparison between the means of the difference scores for the two groups, the lower reading group had a mean difference score of 0.84, and the higher reading group had a mean difference score of 0.65. A t-test for independent samples was used to compare the mean difference scores between the two groups. Although the lower group did have an average equal to and higher in AR than the higher group, there was not a significant difference between the mean difference scores of the two group ( $t = 1.78$ ,  $df = 23$ ,  $p = 0.05$ , critical value of  $t = 2.069$ ). With a  $p=1.0$  requiring a  $t$  value of 1.714 the researcher would have been able to reject the null hypothesis and accept the hypothesis but for this study  $p=0.05$  was chosen as a significant value.

There were some limitations of this study that affected the results of the study. One was the size of the group and the participants involved, the other was the length of treatment. Research has shown that the larger the group the more accurate the results would be due to actual and not chance, which increases the validity of the study. This study consisted of 25 students, of whom those in the high group were reading at grade level, and thus had longer and more difficult books to read. It took them longer to finish a book and take an AR test. The

opportunity for extended growth was more limited than those in the lower group with a lower baseline.

Time allowed for the study was also a limitation. Research has shown that validity increases as the length of the study increases. This study was conducted in a classroom winter trimester through the spring trimester, so the parameters were the last three months of the school year during which the study took place. If more time was available it is possible they may have reached the  $p=.05$ .

The researcher found it interesting that the use of AR and a token economy really did help motivate the students in the lower group to read more. The token economy gave them an incentive to read, and the feedback generated from the AR test results was also motivating to the students which was supported by research found in Chapter 2, in the sections entitled Accelerated Reader, Token Economy, and Motivation.

### Summary

This chapter was designed to analyze the data and identify the findings. The hypothesis that first grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will increase average grade level growth equal to or greater than students in the higher reading group as measured by Accelerated Reader test results was not supported

because the findings were not significant. The students in the lower group had made average grade level growth equal to and higher than the students in the higher group but as mentioned above, it was not significant enough to accept the hypothesis. The hypothesis first grade students in the lower reading groups will express increased confidence in passing Accelerated Reader tests was supported.

The null hypothesis, first grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will show no increase in their average grade level growth than students in the higher reading group as measured by Accelerated Reader test results was accepted. However, First grade students in the lower reading groups will express no increased confidence in passing Accelerated Reader tests was rejected.

Chapter 5 will summarize the study, draw conclusions, and make recommendations.

## CHAPTER 5

### Summary, Conclusions and Recommendations

#### Introduction

This chapter has been organized around the following topic: (a) introduction, (b) summary, (c) conclusions, (d) recommendations.

#### Summary

This study was conducted at Mt. Pilchuck Elementary School, located in Northwestern Washington State, as a result of having some first grade students who lacked the motivation to read and who were not reading at grade level. In order to assist students in getting to grade level in reading, a token economy was used in conjunction with the Accelerated Reader (AR) Program as an intervention to motivate students in the low reading group to read more. . This study was conducted to determine if the intervention of a token economy with AR would show a significant growth in AR reading book level between two groups, the high and low. The findings of this study rejected the first premise of the hypothesis that first grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will increase average grade level growth equal to or greater than students in the higher reading group as measured by Accelerated Reader test results, because although their

average grade level growth was equal to and higher than the students in the high group, statistically it was not significant. The second premise of the hypothesis, first grade students in the lower reading groups will express increased confidence in passing Accelerated Reader tests, was accepted. The first premise of the null hypothesis was accepted, whereas the second premise was rejected.

Various research articles were reviewed by the researcher to gather information about No Child Left Behind, reading instruction, the Accelerated Reader reading program, token economies, and motivation. The above mentioned research was used to assist the researcher in understanding the importance of reading instruction, student motivation in reading, and Accelerated Reader. The data was collected and tabulated using graphs and a *t* test.

### Conclusions

Student motivation was an important factor in getting students to read. Without motivation little learning will take place. Some students in the low group lacked the motivation to read and were not reading at grade level. The practice of reading books with the intervention of a token economy and Accelerated reader with the low group of students resulted in a significant increase in AR book level. This was determined by inputting the pre and post scores into a nonindependent *t* test, with the resulting score of 12.24. This means that there was less than .05%

chance that the growth was by chance. The mean of the data was .84, with the sum of the data being 8.40. The sum of the data squared was 7.48. The students in the high group (who did not receive the intervention of a token economy) also showed significant growth when inputting their pre and post scores into a nonindependent  $t$  test. It was determined they had a score of 8.28. This also means there was less than .05% chance that the growth was by chance. The mean of the data was .64, with the sum of the data being 9.60. The sum of the data squared was 7.40.

However, when measuring the average growth between the two groups, there was not a significant enough increase. The  $t$  test for independent samples showed a value of 1.78 comparing the difference of AR reading level. In order to show significance a  $t$  value at  $p= 0.05$  of 2.069 was required.

Although the mean score for the lower group was higher than the mean score of the higher group, the study shows there was not a significant enough increase. With a  $t$  value of 1.78 it did not meet the threshold for  $p=.05$  of 2.069. The students in the lower group did a great job of having a higher average than the high group; it just was not critically significant. Conclusions are drawn from a synthesis of the findings.

### Recommendations

When considering all the results of the study, the researcher rejected the hypothesis, first grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will increase average grade level growth equal to or greater than students in the higher reading group as measured by Accelerated Reader test results, although the students in the lower group had an average that was equal to and greater than the students in the higher group, the growth was not found to be significant. However, the hypothesis that first grade students in the lower reading groups will express increased confidence in passing Accelerated Reader tests, was supported.

The null hypothesis, first grade students in the lower reading groups who receive teacher assisted reading instruction with motivation through a token economy will show no increase in their average grade level growth than students in the higher reading group as measured by Accelerated Reader test results, was accepted and validated by the *t* scores. However, the hypothesis, first grade students in the lower reading groups will express no increased confidence in passing Accelerated Reader tests, was rejected.

In light of this, the researcher would recommend that her colleagues (first grade team) use the intervention of Accelerated Reader with a token economy with students who lack the motivation to read. There was significant growth for

both groups in Accelerated reading levels. Although, the growth was not found to be critically significant when comparing the two groups, there was significant growth when nonindependent tests were ran. Also, when looking at the survey, it was evident that 80% of students in the lower group felt more confident taking AR tests following the study, and 70% both liked reading and taking AR tests. The researcher will continue to use this intervention in the future.

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