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# The impact of positive reinforcement and self-recording on the on-task behavior of third grade students

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THE IMPACT OF POSITIVE REINFORCEMENT AND SELF-RECORDING
ON THE ON-TASK BEHAVIOR OF THIRD GRADE STUDENTS

by
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# ABSTRACT

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The purpose of this study was to evaluate the impact of positive reinforcement and self-recording on the on-task behavior of third grade students. It was hypothesized that third grade students, within a learning community, who employ self-recording strategies and experience positive reinforcement rewards will be on-task a significantly longer length of time than third grade students who do not utilize those strategies. The study consisted of an experimental and a control group. Both groups were observed to determine baseline data. The experimental group was then asked to record their own on-task behavior and received rewards for being on-task a high percentage of the time. Both groups were then observed to determine if there were any improvements made.

When the data was analyzed it was determined that the experimental group was on-task a longer length of time. It was also determined that there was a significant difference between the pre-test score and post-test score of the experimental group, therefore supporting the hypothesis.

# ACKNOWLEDGEMENTS

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# Chapter 1

## The Scope of the Study

### Introduction

Current research indicates that the presence of community is a positive force, making it tempting for schools to create a strong learning community (Calderwood, 2000). In fact, the literature on effective schools and on school reform relies heavily on the notion that community is a necessary element of successful schools (Calderwood, 2000). It has been suggested through research, that there is a strong positive relationship between successful student outcomes and community (Calderwood, 2000).

Along with building a strong learning community, self-recording can be a useful strategy. The technique is easy to implement and useful in various settings, and the benefits of having students assume responsibility for their own behavior include an increase in the time spent working and improved self-confidence (Lovitt, 1988).

While self-recording alone may be enough to keep some students motivated to remain on-task, it usually requires pairing with additional strategies such as a reinforcement system. The overall purpose of a positive reinforcement system is "to increase the frequency of desired behaviors by helping to identify and then validate them for the children" (Sigler, 2005, p. 250).

This study looked at the problem and the effect of specific structures and strategies in a third grade classroom.

Statement of the Problem

"Miss Bishop, look I can jump on one foot," yells a first grader named Billy.

"I can see that Billy, but what is it that you should be doing right now?"

"I don't know," he says while shrugging his shoulders and making a pouting face.

"You are supposed to be sitting quietly at your desk, working on your morning seatwork. Once your seatwork is completed, raise your hand so that a teacher can look it over. Then you may set up your seat at circle. Now Billy, what are you suppose to be doing." Billy repeats the correct directions and gets back on-task.

No more than five minutes go by when Billy is again off-task. This time Billy is peeling all of the wrappers off his crayons. Again, he is asked what he should be doing. This time Billy replies with an appropriate answer, "My seatwork."

"And what were *you* doing Billy?"

"Cleaning my crayons off because they were dirty."

"I understand that, but you are supposed to be doing something else, so please put the crayons in your box and get back to your seatwork." Billy puts the crayons back in his box and returns to seatwork.

This pattern is exhibited in this first grade classroom throughout the day. Billy is not the only student who has trouble remaining on-task; there are several students who are often off-task. This classroom is not unique in its struggle to keep students on-task. This real-life scenario leads to the research problem, finding structures and strategies that will effectively promote on-task behavior in students.

This problem has been reviewed by many and the structure of a classroom and certain strategies, such as self-recording and positive reinforcement, have all shown up repeatedly in relevant literature. The structure of a classroom is a "powerful factor that influences the amount of class time that is used effectively," and in order to achieve optimum effectiveness, it is important to begin very early in the school year (Stuck, 1992, p. 7-8). An environment needs to be created that nurtures and supports the students' ideas while maximizing opportunities for achievements. When environments are supportive, a student can feel that they matter and everything that they do matters. In fact, research indicates that teachers who "spend time explaining their expectations,

demonstrating the desired classroom behaviors, allowing students to practice the desired classroom behaviors, and providing students with feedback regarding their classroom behaviors have more opportunity to concentrate on instruction" (Stuck, 1992, p. 8).

Based on case studies, such as the ones Lloyd (1982) and Harris (2005) conducted, it appears that strategies such as self-recording, which is a self-management strategy in which students monitor their own behavior (Lovitt, 1988), and positive reinforcement, which is the act of identifying and encouraging a behavior, with the hopes that the desired behavior will increase (Sigler, 2005), produce beneficial effects for on-task behavior, that is the time students are attending to the task given to them. In Lloyd's study, the student focused on was on-task an average of 35% of the time during baseline (Lloyd, 1982). The student's baseline average suggests a serious problem for this student. Once the self-recording was introduced, the student was on-task an average of 62% of the time (Lloyd, 1982). As previously discussed, it is not just this one student who has trouble, there have been many studies done focusing on students just like this one with difficulties remaining on-task.

Yet another example, in the Harris case study, the group of students focused on were on-task an average of 55% of the time during baseline (Harris, 2005). Again, showing the problem students are having remaining on-task. The group's on-task behavior during the self-monitoring phase averaged 94% (Harris, 2005).

While each study was performed on two different populations, Lloyd's was based on a student with a learning disability and Harris's was based on a student with Attention Deficit Hyperactivity Disorder (ADHD), the results were similar. Both showed that self-recording and positive reinforcement have a beneficial effect on student's off-task

behavior.

## Hypothesis

Within a learning community, third grade students who employ self-recording strategies and experience positive reinforcement rewards will be on-task a significantly longer length of time than third grade students who do not experience self-recording and positive reinforcement rewards.

## Limitations of the Study

Limitations of this study are provided to identify potential weaknesses. They are uncontrollable variables that a researcher cannot control and that can affect the study (Creswell, 2003).

One limitation of this study was the sample size. The sample was from two classrooms, in a school district located in southern New Jersey. The size of the sample was 50 students, a relatively small number when dealing with research that discusses strategies that could help students with on-task problems. There were 25 students in the experimental group. With this number being so small, it did not allow for the findings to be generalized across grade levels.

A second limitation was the time period in which the study was conducted. This research study was conducted over an eight-week period. While this period may seem significant, it may not have been a long enough period to truly determine whether the results will hold up over time.

A third limitation resulted from the change in teachers. The students involved in this research had already built a rapport with their teacher and the replacement caused a change in their regular behavior. The classroom already had a set of rules and

consequences that were understood and followed for the first half of the school year. The structure and community was already established, making it difficult for another teacher to come in and modify the environment. The students were not the only ones who had an issue with changes; the regular classroom teacher also had a problem. With a routine and structure already in place, it was difficult to make substantial changes; therefore, my study was slightly compromised.

A fourth limitation was the lack of data on the effectiveness of a learning community. While the teacher researcher journal provided feedback on its effectiveness, it was the only source of data that was directly linked to a learning community. This data provided some insight into how a learning community can affect on-task behavior, but it was not reliable enough to generalize the findings.

A fifth limitation was that of the students' self-recording sheets. This form of data played an important part in determining how effective the strategy was. The students were asked to view themselves objectively, but it was hard for a third grade student to do so. The researcher combated this limitation by closely observing the students during this stage of research.

## Definition of Terms

The following terms were defined specifically for the purpose of this research study:

*Learning Community* - Incorporating the mutual processes of inclusion and exclusion, marked by the construction and defense of borders or boundaries and internal transactions of talk and other social relations among differentiated individuals (Calderwood, 2000). For the purposes of this research study, the researcher focused on fostering these ideas in a specific third grade classroom.

*Self-recording* - A self-management strategy in which students monitor their own behavior (Lovitt, 1988).

*Positive Reinforcement* - The act of identifying and encouraging a behavior, with the hopes that the desired behavior will increase (Sigler, 2005).

*On-task behavior* - Occurs when students are actively engaged in the task given to them For example, the student is writing in his journal or is cutting out a picture for the purpose of a specific task. On-task behavior is also occurring when the student is focusing his/her eyes directly on the specific item being completed (ex. workbook page or textbook story).

*Off-task behavior* - Occurs when students are attending to things other than the task assigned. Off-task behavior is exhibited when the students' eyes are wondering about the room and they are not actively involved in the task given to them. For example, the student is asked to write a journal entry but they are using a pencil sharpener at their desk.

# Chapter 2

## Review of the Literature

## Introduction

Chapter One introduced the scope of the study and the statement of the problem. It also presented the hypothesis, which stated within a learning community, third grade students who employ self-recording and also experience positive reinforcement rewards will be on-task a significantly longer length of time than third grade students who do not experience self-recording and positive reinforcement rewards. This problem has been reviewed by many and the structure of a classroom and certain strategies, such as self-recording and positive reinforcement, have all shown up repeatedly in relevant literature. This chapter will take an in-depth look at such literature.

## Building a Learning Community

Every school is different. The idea of community will mean something different depending on the environment (Calderwood, 2000). There is no one definition of a learning community; however, a common definition is:

> "Any one of a variety of curricular structures that link together several
> existing courses---or actually restructure the material entirely---so that
> students have opportunities for deeper understanding and integration of
> the material they are learning, and more interaction with one another and
> their teachers as fellow participants in the learning enterprise" (Gabelnick,
> 1990, p. 19).

In an environment where there are no practices of community at a particular school, there will likely be an absence of community (Calderwood, 2000). A lack of community affects the way schools function, most likely in a negative fashion. Current research

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indicates that the presence of community is a positive force, making it tempting for schools to create a strong learning community (Calderwood, 2000). In fact, the literature on effective schools and on school reform relies heavily on the notion that community is a necessary element of successful schools (Calderwood, 2000). It has been suggested through research, that there is a strong positive relationship between successful student outcomes and community (Calderwood, 2000).

If building a learning community is important, how does a school create one? It all starts with hope; hope that the school community provides encouragement, hope that it creates clear thinking and informed action, and hope that these ideas become reality (Sergiovanni, 2004). Once the school makes a commitment to creating an effective learning community, the teacher needs to take an active role (Calderwood, 2000).

The teacher who decides to build a learning community needs to be dedicated, as it takes much time and practice. She/he needs to create an environment that is nurturing and supportive, as opposed to one that is "contractual, hierarchical, and impersonal" (Calderwood, 2000, p. 2). When environments are supportive, a student can feel that they matter and everything that they do matters (Calderwood, 2000).

The structure of a classroom is a "powerful factor that influences the amount of class time that is used effectively," and in order to achieve optimum effectiveness, it is important to begin very early in the school year (Stuck, 1992, p. 7-8). In order to maintain a learning community's effectiveness, its structure needs to be reviewed periodically throughout the year (Murdick, 1996). Often times, teachers do not spend enough time communicating their expectations to students, which leads to wasted time later on in the school year (Stuck 1992). Rules indicating what the teacher wants the

student to do, procedures demonstrating how things are to be done in the classroom and routines for carrying out the procedures should be decided on right away (Stuck, 1992).

In their research, Brennan, Dworak, and Reinhart (2002) suggest that student engagement in these rules keep them interested and an active part of the community (Brennan, 2002). The rules are also more effective if developed with the input of the students (Murdick, 1996). Giving students the opportunity to be a part of establishing the class rules leads to a better understanding of their need and helps students learn how to prevent problems from occurring (Brennan, 2002). Further, if rules are designed with input from the student, the teacher must strongly consider the students' needs when developing a discipline policy. Research indicates that teachers who "spend time explaining their expectations, demonstrating the desired classroom behaviors, allowing students to practice the desired classroom behaviors, and providing students with feedback regarding their classroom behaviors have more opportunity to concentrate on instruction" (Stuck, 1992, p. 8). In essence, teachers need to actively involve students in creating the classroom expectations, rules, and consequences, the more input the more effective the classroom becomes (Stuck, 1992).

Once these rules and policies are in place, it is important that the teacher remain consistent in her disciplining. Consistency, according to Brennan, Dworak, and Reinhart, is the key to running an effective classroom (Brennan, 2002). When the rules are put into place, the teacher must be sure to model the appropriate behaviors throughout the school day. Stuck and White argue that, "modeling is a powerful influence on how people behave" (Stuck, 1992, p. 9). When students see their teacher engaged in appropriate behaviors they are more likely to follow that example. Thus, it is not surprising that

students are on-task a higher percentage of the time when their teachers are prepared, well-organized, and on-task themselves (Stuck, 1992).

An effective learning community also takes into consideration the individual in the classroom. It is important that the environment is one in which all students can succeed; in-deed, "students are not objects of instruction, but participants in the teaching and learning process" (Purrington, 1996, p. 5). If students are involved in the building of the learning community, it is only fitting that they be involved in the instruction portion as well (Purrington, 1996).

Teachers should open communications with their students about the importance of their learning (Brennan, 2002). Teachers need to appreciate differences in students and "not just teach curriculum" (Brennan, 2002, p. 25). Teachers should create their strategies for instruction, taking into account a students unique situations (Purrington, 1996). They cannot be afraid to take the opportunity to abandon one teaching approach in favor of implementing other strategies that best fit the circumstances presented in their classroom (Purrington, 1996). It is important to note that an important feature of a good learning community is the ability to provide "enriched and diverse opportunities for students to learn, perform, and be recognized" (Sergiovanni, 2004, p. 35). Not all students learn in the same manner, and a good learning community will make allowances for those students who succeed in different ways (Purrington, 1996).

Research suggests several important considerations for effective classroom structures. The ways a classroom is structured have an important influence on students' behaviors; thus, taking the time to build a positive learning community is well worth it (Calderwood, 2000). If an effective learning community is put into place, it will likely

reduce the amount of negative behaviors, including off-task behavior (Calderwood, 2000). As noted earlier, when students are involved in creating rules they are not only empowered, but they have a better understanding of what is expected of them (Brennan, 2002). When they know what is expected they have a better chance of attaining that expectation (Brennan, 2002). Further, since the likelihood of engaging in appropriate behavior increases when the teacher models the proper behavior, in this case on-task behavior, it is important to do so (Stuck, 1992). If teachers remain consistent in following the steps to creating a successful learning community, students will likely respond in a positive manner (Brennan, 2002).

## Self-recording

Self-recording is a self-management strategy that is found to be effective in producing improvements in behavior and often "teaches students to monitor their own behavior" (Lovitt, 1988, p. 19). The technique is easy to implement and useful in various settings, and the benefits of having students assume responsibility for their own behavior include an increase in the time spent working and improved self-confidence (Lovitt, 1988).

Research has also shown that when a student self-records a specific behavior, that behavior changes in frequency (Moxley, 1998). In fact, research has found that self-monitoring has effectively increased the frequency of desirable behaviors and decreased the frequency of undesirable behaviors (Moxley, 1998, p. 30). The phenomenon where the behavior that is being self-recorded changes in frequency is well established and is known as "the reactivity of self-monitoring" (Moxley, 1998, p. 29).

There are other benefits of implementing a self-recording strategy besides the

desired effect of a decrease in the unwanted behavior. Another such benefit is that self-recording provides immediate feedback for the student (Moxley, 1998). When a student is involved in monitoring his or her own behavior, they are able to look at the data immediately and determine if they have met their objective; if a teacher records their behavior they would have to wait for the teacher to report the findings to them (Moxley, 1998).

Self-recording can also be a highly motivating activity (Moxley, 1998). When students see immediate, frequent indications of achievement or improvement toward valued goals they become more confident and motivated (Moxley, 1998). With the "inherent motivation" that self-recording can provide, the students' reaction to the technique is often a good check on whether the goal is valued (Moxley, 1998, p. 30). Likewise, if a lack of interest is shown in self-recording, it is often an indicator that the teacher must make revisions in the goals (Moxley, 1998).

## Positive Reinforcement

Self-management alone *may* be enough to keep some students motivated to remain on-task, but it usually requires pairing with additional strategies such as a reinforcement system. Positive reinforcement, "the act of identifying and encouraging a behavior, with the hopes that the desired behavior will increase," is a means of identifying to children which behaviors are acceptable and appropriate and which are not (Sigler, 2005, 249). The overall purpose of a positive reinforcement system is "to increase the frequency of desired behaviors by helping to identify and then validate them for the children" (Sigler, 2005, p. 250). By using an effective positive reinforcement system, the teacher acknowledges the child's behavior as appropriate and teaches them

which behaviors are preferred over others (Sigler, 2005).

Although, there are a number of different types of positive reinforcers, Smith (2005) suggests five. The first type is natural and direct reinforcement. This type of reinforcement results directly from the appropriate behavior. It should be the goal of all positive reinforcement systems to move the student to natural reinforcement. Natural reinforcement is important because it is a motivation that comes from within the student; thus the student can become independent from a reinforcement system. A second form of reinforcement is called social reinforcers. Social reinforcers are socially motivated and express approval and praise for appropriate behavior. Smith (2005) describes the third reinforcer as an activity reinforcer. Smith's third activity reinforcer allows students to participate in preferred activities and is extremely powerful, and even more so when students are allowed to choose a classmate with which to participate. If done in accordance with peers, activity reinforcers can also provide social reinforcement. A fourth type of reinforcer is a tangible reinforcer. A tangible reinforcer includes objects that can be physically awarded to a student, for example, a student may receive stickers, toys, or balloons. A teacher must be careful when using this form of reinforcement because depending on the reward, the system could cause another problem. For example, a student might receive two toy cars for being a good student but another child acts out because he is envious of what the other student has achieved. These reinforcers can be extremely. The fifth form of reinforcement is a token economy. A token reinforcement involves awarding points or tokens for appropriate behavior (Smith, 2005).

Positive reinforcement works by attending to appropriate behavior while attempting to ignore inappropriate behavior (Sigler, 2005). In order to assure that

positive reinforcement is as effective as possible, four key elements need to be emphasized. The first element is determining the difference between reinforcement and punishment. As previously mentioned, reinforcement increases a desired behavior while punishment decreases an undesired behavior (Sigler, 2005). While the line is fine, it is one that needs to be emphasized in order for positive reinforcement to be effective (Sigler, 2005).

A second element is a phenomenon known as "extinction burst" (Sigler, 2005, p. 252). An extinction burst is "the rapid production of a behavior once the reinforcement is taken away" (Sigler, 2005, p. 252). Often times when a reinforcer is taken away an undesired behavior increases suddenly, but it is actually a sign that the reinforcement is working (Sigler, 2005).

A third element is positive attention. While other reinforcers may be easy and manageable, they may not always be desirable. That is why positive attention is often times the best choice (Sigler, 2005). Giving a student positive feedback takes little time and has a positive effect on students (Sigler, 2005).

The fourth element, but perhaps the most important is ignoring unwanted behaviors. When observing an undesired, inappropriate behavior, indicate the behavior is not acceptable and then move on (Sigler, 2005). As Sigler points out, there is a subtle difference between identifying a behavior and giving a child reinforcement for that behavior (Sigler, 2005). The distinction needs to be respected or positive reinforcement can be undermined (Sigler, 2005).

When implementing a positive reinforcement system, a teacher must remain consistent in delivering the reinforcement; if not a student may make no connection

between the appropriate behavior and the reinforcement (Smith, 2005). If no connection is made, the behavior will not change. It is also important to reinforce the behavior immediately; this will further support the connection between reinforcement and the appropriate behavior (Smith, 2005). If it is not delivered immediately, for example, if a student receives his certificate at the end of the day for a behavior that he exhibited in third period, the reinforcer may not be viewed as a positive from the student perspective. All of these connections are important because if a student is unable to determine for what he/she is receiving positive attention for, he/she may increase a behavior that is not appropriate (Sigler, 2005).

<div align="center">Studies Based on Self-Recording</div>

<div align="center">Self-Monitoring of Attention versus Self-Monitoring of Academic Performance:<br>Effects Among Students with ADHD in the General Education Classroom</div>

In this study conducted by Harris et. al. (2005), they argue that the ability to understand and regulate one's own behavior is an important characteristic of human beings. This study centers on students who are identified as having Attention Deficit Hyperactivity Disorder. These students often complete work at slower rates, produce poorer quality work than they are capable of, and often times have difficulty remaining on-task; however, self-regulation interventions have been successful in helping students with special needs regulate their behaviors during a wide range of tasks (Harris, 2005). Such interventions assist students in "working responsibly and independently" and enhance students' control of their learning (Harris, 2005, p. 146). These interventions are also often less invasive than teacher-managed treatments and can be more effective than interventions implemented by the teacher (Harris, 2005).

Self-monitoring, as defined in this study, is a "critical self-regulation process, as it

affects both behavior and academic performance" (Harris, 2005, p. 146). There are two primary areas of focus of self-monitoring in educational research: self-monitoring of performance (SMP) and self-monitoring of attention (SMA) (Harris, 2005). Self-monitoring of attention concentrates on increasing on-task behavior through self-recording and believes that increasing the amount of on-task behaviors will improve academic performance (Harris, 2005).

The study was conducted with six third, fourth, and fifth-grade students. Each of the students had been diagnosed with ADHD. On-task behavior was defined as occurring when a student "focused her or his eyes on the spelling list, practice paper, or self-monitoring tally sheet, executed any step in the spelling study procedure, or asked for help" (Harris, 2005, p. 149). In order to collect this data, a momentary time sampling procedure was used (Harris, 2005). To collect the baseline data, a teacher, at 3-second intervals, observed participants and coded if they were either on-task or off-task during the final 10 minutes of a 15 minute period (Harris, 2005).

Once baseline had been established, the student was introduced to the self-monitoring procedure. First, the students attended individual conferences with the teacher to discuss the importance and meaning of paying attention (Harris, 2005). The student was then informed that they would be using a procedure that would help them pay better attention (Harris, 2005). Much like during baseline, the student was to record whether they were on-task by asking themselves if they were paying attention, marking a yes if they were and a no if they were not, on a tally sheet (Harris, 2005). The student would record their behavior when prompted by a tone, which was put onto a tape at random intervals so that the child could not predict when they would occur (Harris,

2005).

During baseline, the students' on-task behavior averaged 55% (Harris, 2005).

The group's on-task behavior during the self-monitoring phase averaged 94% (Harris, 2005). These results suggest that the SMA had a positive effect on each student's on-task behavior. The increased stability in on-task behavior is important to note, because "instability of behavior is common among students with ADHD" (Harris, 2005, p. 151). After the findings were documented, students participated in a post intervention interview where they all recognized their improvement and discussed a willingness to use the self-monitory procedure (Harris, 2005).

This study demonstrates that self-monitoring interventions for students with ADHD can be implemented effectively in the general education classroom (Harris, 2005). Both the special education teacher and the general education teacher found this intervention strategy acceptable (Harris, 2005). The special education teacher made note that it was easy to implement (Harris, 2005). The results of this study indicate that this intervention strategy can be effective and should be considered with students experiencing on-task difficulties (Harris, 2005).

Reactive Effects of Self-Assessment and Self-Recording on
Attention to Task and Academic Productivity

While the previous case study focused on students with ADHD, the next study of focus deals with students diagnosed with Learning Disabilities. As defined in this study, self-recording is a "procedure in which an individual determines whether he/she has performed a particular behavior and then makes a record of the results of his/her observations" (Lloyd, 1982, p. 216). Lloyd, in describing the self-recording technique, discusses previous research that show "behavior changes often occur when subjects begin

to record whether or not they have been performing a given behavior" (Lloyd, 1982, p. 216). In fact, self-recording has been observed to have beneficial reactive effects on on-task behaviors in several studies (Lloyd, 1982).

This research involved two case studies, the first of which was conducted on a 9-year old male. On-task behaviors, as defined in this study, occurred when he was "sitting in his seat, looking at his assigned work" (Lloyd, 1982, p. 218). Off-task behaviors included behaviors such as "looking away from the assigned tasks, talking with another student, or working on some material other than that assigned for the arithmetic period" (Lloyd, 1982, p. 218). In order to collect baseline data, an observer would record the students' behavior at least three times a week during the seatwork period (Lloyd, 1982). The observer was to record his behavior as either on-task or off-task in 6-second intervals (Lloyd, 1982).

Prior to the use of the self-recording strategy, the teacher gave the student definitions and examples of paying and not paying attention (Lloyd, 1982). The teacher also instructed the student on how to mark on the self-recording sheet whenever he heard the tone, even modeling the entire procedure for him (Lloyd, 1982). Once she had explained all the steps, she asked the student to repeat what he was asked to so that she knew he had a full understanding of the procedures (Lloyd, 1982). After that, she gradually "faded her guidance" (Lloyd, 1982, p. 219).

During the actual use of the strategy, self-recording occurred under the same conditions as the previous study discussed (i.e. Harris). There was an audio tape placed next to the student in which tones were sounded at varying times (Lloyd, 1982). When the tone sounded, the student was to either record his behavior as on-task or off-task

(Lloyd, 1982).

As found in previous studies, the use of self-recording procedures was shown to increase students' on-task behavior. During baseline, the student was on-task an average of 35% of the time (Lloyd, 1982). Once the self-recording was introduced, the student was on-task an average of 62% of the time (Lloyd, 1982).

The second experiment was conducted on three students in a self-contained classroom for students with learning disabilities. The students were held to the same on-task and off-task criteria as laid out in experiment one (Lloyd, 1982). The baseline data was also collected in the same fashion (Lloyd, 1982). Just like in experiment one, the students were told what was expected of them, they had the procedure modeled for them, and they were asked to repeat everything to check for understanding. As in the first experiment, it was found that the students demonstrated higher levels of on-task behavior during the self-recording intervention phase (Lloyd, 1982). These findings provide "a replication of the effects observed" in the first experiment (Lloyd, 1982, p. 224).

The study concluded that self-recording produces beneficial effects to on-task behavior consistently (Lloyd, 1982). The authors give several potential reasons for the effectiveness of self-recording. First, when a student records their own behavior on a physical sheet of paper, evaluation of one's performance is required (Lloyd, 1982). In evaluating their performance they learn things about themselves they may not have otherwise been cognizant of. Also, when their behavior is made public record, "they are less able to deceive anyone about their performance" (Lloyd, 1982, p. 224). These results open the possibility that self-recording can be a beneficial strategy in increasing on-task behavior (Lloyd, 1982).

Summary

This review of literature has looked at current research on structures of classrooms, strategies in the classroom that foster appropriate on-task behavior, and case studies conducted on specific strategies. This research suggests that building a strong, supportive, learning community can be an effective pre-intervention to students' off-task behavior (Calderwood, 2000). In other words, an effective learning community could help prevent problems before they have the opportunity to occur. Research also suggests that self-recording and positive reinforcement can be effective in increasing the time students spend on-task. If a problem does arise, these strategies, when implemented effectively, can be a means of slowly decreasing the problem behavior and increasing the desired behavior. There have also been studies conducted using self-recording to help students increase their on-task behavior. While these studies have been done on students identified with ADHD and learning disabilities, it is my goal to determine whether or not these structures and strategies can be applied to students in the general education classroom.

Chapter 3

Methodology

Introduction

This study explored the effect of self-recording and positive reinforcement on a

third grade class. Chapter One introduced the scope of the study and discussed a problem

found in many classrooms around the country. Chapter Two explored relevant literature

as regards to self-recording, positive reinforcement and building a learning community.

Description of Subjects

*The Community:* The research was conducted at an elementary school that was

part of a southern New Jersey school district. The southern New Jersey township was

diverse with the community's ethnicity as follows: 74% Caucasian, 19% African

American, 4% Hispanic, 3% Asian and less than 1% American Indian. About 3% of the

students were English Language Learners. About 22% of the students throughout the

district participated in the free lunch program and were of low socioeconomic

background.

The diversity of the southern New Jersey township was reflected in the

elementary school. The school consisted of 758 students. The average classroom size at

the elementary school was about twenty-one students. Student ethnicity was as follows:

76% Caucasian, 16% African American, 5% Asian and 3% Hispanic. About 3% of the

students were English Language Learners. About 10% of the students were participating

in the free lunch program and were of low socioeconomic background.

*The Subjects:* This study consisted of 50 subjects. The students were evenly divided into two groups, an experimental group and a control group. Both groups consisted of students from third grade and range in ages from eight to ten years old. The diversity of the subjects within the study did not represent the diversity of the total school population. The vast majority of the students in the study were 88% Caucasian, only 8% are African American, Hispanic and Asian are each represented at 2%. The students were evenly divided between an experimental group and a control group.

The experimental group had a variety of academic levels. There were five students who left the room for Gifted and Talented (XL). The XL program was the school's version of a gifted and talented program. The five students who were pulled had been working in the XL program since the beginning of the school year. This group did not contain any student who was pulled out for replacement instruction. There were however, three students pulled out for corrective reading and two pulled out for Basic Skills math. These students were low academically, but had yet to qualify for special education services.

While the academic abilities of the experimental group were diverse, the group had almost an even split between males and females. The group contained 12 females and 13 males.

The control group was more diverse, academically. In this group, six students were pulled out for the XL program. These six students had also been working in the XL program since earlier in the school year. There were also five students who were pulled out for replacement resource reading and math. These five students did not follow the general education curriculum with the rest of the class; rather they worked in a small

group setting following a Science Research Associates (SRA) curriculum.

While the control group had a wide range of academic abilities, the gender of the subjects was virtually identical. The group consists of 13 females and 12 males.

Procedure

The first step in beginning this research project was informing the school and parents of my proposed research. A Letter was sent home to the parents indicating the researcher's intentions. Attached to that letter was a permission slip that requested parents to sign for their child to participate. A different introductory letter was written to the experimental group (appendix A) and the control group (appendix B). The consent form was the same for all participants (appendix C). When the letters were signed and returned, the observation of the control group began.

Throughout the experimental group observation stage, the examiner observed each student over a 20-minute period. The focus of the observation was on the on-task behaviors of the students within the group. Each student was watched carefully and every 20 seconds the observer recorded a tally mark on the Researcher Observation Sheet (ROS) next to either on-task or off-task (appendix D). In order to determine which to mark, the observer determined if the student had his/her eyes fixed on the assignment and if the student was actively engaged in the task given. If the student was doing both of those things, the observer placed a tally mark next to on-task. If the student did not exhibit both behaviors, a tally mark was placed next to off-task.

When every student in the experimental group had been observed for the specified amount of time, the control group was observed. The same steps were taken in the observation of the control group, as was for the experimental group. This step was

completed in order to determine the baseline data for both groups.

With the initial observation stage complete, the researcher explained and modeled for the students the use of the self-recording strategy. The specific definition for on-task behavior was also made clear. Each student was then given a Self-Recording Sheet (SRS) on which they recorded their own behaviors (appendix E). The students were given a week to record their behavior. During that week each student spent an hour recording his or her own behavior by placing a tally mark next to "yes" if they were on-task and next to "no" if they are not. The students then asked themselves, "Was I On-task," twelve times over the course of an hour.

During the student self-recording stage, students were given various forms of positive reinforcement. Depending on how often the student was on-task, determined how much reinforcement was given (appendix F). The student SRS served as a means for determining the reward, but researcher observations also counted for a portion. In order to ensure that the students were being truthful throughout the process, the researcher continued observing and recording notes in the Research Journal (RJ).

If it was found that the student was on-task 100% of the time, they were given a sticker, positive feedback and could pick two prizes from the treasure chest. If a student was able to remain on-task 100% of the time throughout the self-recording stage, he or she was given a teacher helper job the following week. Those students who were on-task 92% of the time were given a sticker, positive reinforcement and one choice from the treasure chest. Students who were on-task 83% of the time were given a sticker and positive feedback. Any student who showed improvement each day was given positive feedback from the researcher.

Following the self-recording stage, the researcher again observed the experimental group and then the control group. The same procedure followed for baseline data was repeated to determine if there was in-fact improvement in either group. The data was then analyzed and reviewed.

## Description of Data Collection Instrument

The key instrument used in the collection of data was the Researcher Observation Sheet (ROS) (appendix D). The ROS provided the researcher with the baseline data for both the experimental group and the control group. The instrument was an adaptation by the researcher. It was adapted to fit the amount of students in this research study. It was also adapted to allow for a longer period of observation time. The instrument included both on-task and off-task sections for each child.

A second instrument used during the research was a Researcher Journal (RJ). The journal was a means for the researcher to record any significant data that did not fit on any other form. The journal served as an outlet for the researcher to discuss specific students and their use of the SRS. It proved to be an invaluable tool when attempting to make implications on the education world.

A third instrument used in this study is the SRS. This tool was selected for the same reasons the researcher observation sheet was selected (appendix E). It gave students clear boundaries and provided the students with space to record findings.

# Chapter 4

## Analysis of the Findings

## Introduction

The purpose of this study was to investigate the effects of self-recording and positive reinforcement on the on-task behavior of third grade students. The study included two third grade classes. The experimental group utilized the self-recording strategy during the treatment phase. During this phase, they also received various forms of positive reinforcement. It was hypothesized that, within a learning community, third grade students who employ self-recording strategies and experience positive reinforcement rewards will be on-task a significantly longer length of time than third grade students who do not experience self-recording and positive reinforcement rewards.

## Results

The experimental and control groups were both observed prior to treatment (pre-test) and following the treatment of the experimental group (post-test). The researcher observed each student for twenty minutes, recording the amount of time on-task. There were 25 students in each group. The mean for the pre-test of the experimental group was 46.232. The mean for the pre-test of the control group was 48.608. The standard deviation for the pre-test of the experimental group was 7.1515. The standard deviation for the pre-test of the control group was 6.3832. These pre-test and post-test results are recorded in table 1.

table 1

Pre-test Mean and Standard Deviation Score

|  | Experimental Group | Control Group |
| --- | --- | --- |
| Mean | 46.232 | 48.608 |
| Standard Deviation | 7.1515 | 6.3832 |

The mean for the post-test of the experimental group was 55.724, signifying a change from the pre-test score. The mean for the post-test score of the control group was 48.132, which is slightly lower than the pre-test mean. The standard deviation for the post-test of the experimental group was 2.1966. The standard deviation for the post-test of the control group was 6.3112. These results are recorded in table 2.

table 2

Post-test Mean and Standard Deviation Score

|  | Experimental Group | Control Group |
| --- | --- | --- |
| Mean | 55.724 | 48.132 |
| Standard Deviation | 2.1966 | 6.3112 |

A $t$-test for dependent samples was calculated to determine if there was a significant difference between the pre-test and post-test scores of the experimental group. The same test was calculated to determine if there was a significant difference between the pre-test and post-test scores of the control group. The degrees of freedom were the same for both groups, twenty-four. With the degrees of freedom the same and the use of

0.05 for the alpha value (p), the $t$-table value was 1.711 for both groups. The $t$-value for the experimental group was 5x10^6. The control group's $t$-value was 1.0299. The $t$-test value for the experimental group was 1.899x10^-8. The control group's $t$-test value was 0.3133. These scores were analyzed to determine significance. These results are recorded in table 3.

table 3

$t$-test for Dependent Samples

| | $t$-value | Degrees of Freedom | $t$-test value | alpha value (p) | $t$-table value |
|---|---|---|---|---|---|
| Experimental Group Pre-test/Post-test | 5x10^6 | 24 | 1.899x10^-8 | 0.05 | 1.711 |
| Control Group Pre-test/Post-test | 1.0299 | 24 | 0.3133 | 0.05 | 1.711 |

Analysis of Results

A $t$-test for dependent samples was assessed to determine if there was a significant difference between the pre-test score and post-test score of the experimental group. When comparing the $t$-value to the $t$-table value, it was determined that there was a significant difference between the scores. Being that the data is statistically significant, there is a high probability that the relationship between the two scores is due to the treatment and is not due to chance.

A $t$-test for the dependent samples was calculated to determine if there was a significant difference between the pre-test and post-test scores of the control group. When the $t$-value was compared to the $t$-table value, it was determined that there was no significant difference between the scores.

When analyzing the mean scores for both the pre-test and post-test for each group, the researcher found more useful information. Prior to the treatment of the experimental group, the experimental and control group had similar scores. The proximity of the scores illustrate that both groups were equal at the beginning. If anything, the experimental group was at a slight disadvantage with a lower mean pre-test score.

Following the treatment of the experimental group, the mean post-test scores were vastly different. While the score of the control group stayed the same as their pre-test, the score of experimental group increased approximately ten points. The difference between the mean post-test score of the experimental group and the mean post-test score of the control group was approximately eight points. With the score of the experimental group increasing and the score of the control group remaining stable, there is a high probability that the treatment of the experimental group was the reason for the significant improvement.

These results supported the hypothesis of the researcher.

# Chapter 5

## Summary, Conclusions, and Recommendations

### Introduction

This study explored the effect of self-recording and positive reinforcement on a third grade class. Relevant literature was reviewed in regards to self-recording, positive reinforcement and building a learning community. When teachers are prepared, well-organized, and on-task themselves, it is not surprising that students are on-task a higher percentage of the time (Stuck, 1992). It also illustrates the importance of self-recording and the pairing of additional strategies such as a positive reinforcement system. The study was conducted and the researchers findings were discussed in Chapter Four.

### Summary of the Research Problem

The purpose of this study was to investigate the impact of self-recording and positive reinforcement on the on-task behavior of third grade students who are included in a learning community. The researcher attempted to use these strategies to improve the on-task behavior of third grade students.

### Summary of Hypothesis

The hypothesis investigated in this study dealt with the utilization of structures and strategies designed to promote on-task behavior. Specifically, within a learning community, third grade students who employ self-recording strategies and experience positive reinforcement rewards will be on-task a significantly longer length of time than third grade students who do not experience self-recording and positive reinforcement

rewards.

## Summary of the Procedure

The research took place over a three-week period. The study was comprised of two third grade classes. Both groups were observed prior to any treatment. Following the initial observation, the experimental group was asked to participate in self-recording and received positive reinforcement throughout the process, while the control group did not. After the treatment of the experimental group, both groups were again observed. The data was recorded and analyzed.

## Summary of Findings

A $t$-test was used to determine if there was a significant difference between the pre-test and post-test scores of the experimental group. The same test was used to determine significance between the pre-test and post-test scores of the control group. Upon analysis, it was determined that there was a significant change in the scores of the experimental group and an insignificant change in the scores of the control group.

## Conclusions

Based on the results of the $t$-test, the researcher concluded that the treatment of the experimental group led to the significant change in scores. Prior to treatment, the students had a mean score of 46. The students then employed a self-recording strategy and experienced positive reinforcement rewards. Following this treatment, the mean score jumped to 56. The control group, which did not receive any treatment, saw their mean score remain the same. Based on these findings the hypothesis was supported.

## Implications and Recommendations

The findings of this study offer implications for the educational world. With the significant results of the experimental group, the conclusion can be drawn that self-recording coupled with positive reinforcement rewards can improve the on-task behavior of students. The results of this study were based on subjects as part of a group, but when the data is looked at more closely it was found that all but one of the twenty-five subjects saw a rise in their pre-test score. The significance is further illustrated when looking at the post-test scores of the control group, as they dropped slightly without any treatment. These findings suggest that teachers can use self-recording and positive reinforcement as a tool to help improve the on-task behavior of a group or an individual student. The results of this study can potentially have an impact on classrooms across the country.

While the findings of this study supported the hypothesis of the researcher, there are still recommendations for further research and implementation. First, future studies should be conducted over a longer period of time and include a much larger sample size. Having two groups of twenty-five students from one southern New Jersey school district seriously affects external validity. Also, the short amount of time does not allow for generalizations that the strategies will hold up over time. Conducting research on a much larger scale will increase the validity of the study.

A second recommendation takes the classroom teacher into consideration. During the course of this study, the experimental group experienced a change in teachers. The change in teaching style could have had an effect on the on-task behavior of some students. It would be advantageous to implement these strategies when the classroom teacher has been established.

Even though the hypothesis was supported in this study, there is still plenty of research that needs to be conducted. Classrooms are changing every day and because of that, research needs to be continuously performed.

# References

Brennan, R., Dworak, J., and Reinhart, S. (2002). Using Positive Discipline to Reduce Disruptive Classroom Behaviors (Field Based Master's Program, St. Xavier University, 2002). Skylight.

Calderwood, P. (2000). *Learning community: finding common ground in difference*. New York: Teachers College Press.

Creswell, John W. (2003). *Research design: qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, California: SAGE Publications.

Gabelnick, F., MacGregor J., Matthews R., and Smith, B. (1990). Learning communities: creating connections among students, faculty, and disciplines. *New Directions for Teaching and Learning*, (41), 1-120.

Harris, K. R., Friedlander B. D., Saddler B., Frizzelle, R., and Graham, S. (2005). Self-monitoring of attention versus self-monitoring of academic performance: effects among students with adhd in the general education classroom. *The Journal of Special Education, 39*(3), 145-156.

Lloyd, J. W., Hallahan D. P., Kosiewicz M. M., and Kneedler, R. D. (1982). Reactive effects of self-assessment and self-recording on attention to task and academic productivity. *Learning Disability Quarterly, 5*(3), 216-227.

Lovitt, T. C., & Ballew, C. (1988). Self-management tactics. *Adult, Career, and Vocational Education*, 1-130.

Moxley, R. A. (1998). Treatment-only designs and student self-recording as strategies for public school teacher. *Education & Treatment of Children, 21*(1), 37-62.

Murdick, N. L., & Petch-Hogan, B. (1996). Inclusive classroom management: using preintervention strategies. *Intervention in School & Clinic, 31*(3), 172-177.

Purrington, L. (1996). Creating successful learning communities. *Thrust for Educational Leadership, 26*(2), 4-6.

Sergiovanni, T. J. (2004). Building a community of hope. *Educational Leadership, 61*(8), 33-37.

Sigler, E. A., & Aamidor, S. (2005). From positive reinforcement to positive behaviors: an everyday guide for the practitioner. *Early Childhood Education Journal, 32*(4),

249-253.

Smith, Kareen. "Positive Reinforcement: A proactive intervention for the classroom."
Early Childhood Behavior Project. 2005. Center for Early Education and
Development (CEED) at the University of Minnesota. 5 Nov. 2005
http://education.umn.edu/ceed/projects/preschoolbehavior/tipsheets/posrein.htm

Stuck, G. B., & White, K. P. (1992). Maximizing time to teach and time to learn. *North
Carolina Eductional Policy Research Center*, 1-24.

Appendix A

Letter Home to the Experimental Group

Dear Parent/Guardian,

My name is Shannon Bishop, and I have the pleasure of student teaching with Ms. Potter for eight weeks. During these eight weeks, I will be completing a research project dealing with students' on-task behavior. The majority of the research is my observations of how often students are on-task during the school day. There will be a time when the students will be asked to determine how often they are on-task throughout the school day. Attached is a permission slip explaining the steps of my research and requesting permission for you child to participate.

Thank you,

Shannon Bishop

Appendix B

Letter Home to the Control Group

Dear Parent/Guardian,

My name is Shannon Bishop, and I have the pleasure of student teaching with Ms. Potter for eight weeks. During these eight weeks, I will be completing a research project dealing with students' on-task behavior. For my research, I will be observing students from Mrs. Carbo's class. The students in the class will not be asked to do anything except go about their daily routine. Attached is a permission slip requesting permission for you child to participate.

Thank you,

Shannon Bishop

Appendix C

Consent Form

Dear Parent/Guardian:

I am a graduate student in the Education Department at Rowan University. I will be conducting a research project under the supervision of Dr. Randall Robinson as part of my master's thesis concerning how self-recording and positive reinforcement can improve on-task behavior. I am requesting permission for your child to participate in this research. The goal of the study is to determine if these strategies have a positive effect on a students' on-task behavior.

Each child will be observed to determine their on-task behavior prior to self-recording. After initial observation, students will be asked to monitor their own behavior using a self-recording form. At the conclusion of the self-recording period, I will again observe the students to determine if there was a significant improvement. I will retain the self-recording forms at the conclusion of the study. To preserve each child's confidentiality there will be no names used in the write-up of this study. While individual results will be looked at and analyzed, the data will be will be reported in terms of group results. The results of this study will have absolutely no effect on your child's standing in his/her class.

Your decision whether or not to allow your child to participate in this study will have absolutely no effect on your child's standing in his/her class. At the conclusion of the study, a summary of the group results will be made available to all interested parents. If you have any questions or concerns please contact me at (856) 309-5031 or you may contact Dr. Randall Robinson at (856) 256-4739. Thank you.

Sincerely,
Shannon Bishop

Please indicate whether or not you wish to have your child participate in this study by checking the appropriate statement below and returning this letter to your child's teacher by April 7.

____ I grant permission for my child _____ to participate in this study.

____ I do not grant permission for my child _____ to participate in this study.


_____                    _____
(Parent/Guardian signature)                          (Date)

Appendix D

Researcher Observation Sheet

|  | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
|  | Tally mark is made next to appropriate behavior. | Marked every 10 seconds over a 20-minute period. |  |  |  |
| Student 1 | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- |
| Student 2 | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- |
| Student 3 | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- |
| Student 4 | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- |
| Student 5 | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- |
| Student 6 | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- | On-<br><br>Off- |

Appendix E

Self-Recording Sheet

|  | Am I On-Task? | |
| --- | --- | --- |
| Monday | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
| Tuesday | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |
|  | Yes | No |

| Friday | Yes | No |
|--------|-----|-----|
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |
|        | Yes | No |

| Wednesday | Yes | No |
|-----------|-----|-----|
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
| Thursday  | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |
|           | Yes | No |

Appendix F

Positive Reinforcement List

# List of Positive Reinforcement Rewards

1. Positive Feedback
2. Computer time
3. Stickers
4. Teacher helper jobs
5. Treasure chest gifts
   - Baseball cards
   - Pencils and Pens
   - Erasers
   - Super balls