INCREASING STUDENT ACHIEVEMENT IN MATH, COMMUNICATION ARTS, AND SCIENCE THROUGH THE IMPLEMENTATION OF THE STUDENT IN GOOD STANDING PROGRAM

by

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# TABLE OF CONTENTS

- INTRODUCTION AND BACKGROUND .................................................................1
- CONCEPTUAL FRAMEWORK .............................................................................2
- METHODOLOGY ..................................................................................................6
- DATA AND ANALYSIS .........................................................................................8
- INTERPRETATION AND CONCLUSION ..............................................................16
- VALUE .................................................................................................................18
- REFERENCES CITED ..........................................................................................20
- APPENDICES ......................................................................................................21
  - APPENDIX A: Student Attitude Survey ..........................................................22
  - APPENDIX B: Student Interview Questions .......................................................25
LIST OF TABLES

1. Triangulation Matrix ........................................................................................................8
LIST OF FIGURES

1. Attendance for Students with 10 or More Absences during 7th Grade Compared to Their 8th Grade Year .................................................................9

2. Student Perception of Their Own Tardiness.............................................................10

3. Math Fall Semester Grade .....................................................................................12

4. Math Spring Semester Grade ...............................................................................12

5. Communication Arts Fall Semester Grade ...........................................................13

6. Communication Arts Spring Semester Grade .........................................................14

7. Science Fall Semester Grade ................................................................................15

8. Science Spring Semester Grade ...........................................................................15
ABSTRACT

This study was designed to determine the effectiveness of the Student In Good Standing Program (SGSP) and the use of positive incentives as an effective School Wide Improvement Program. The SGSP is a comprehensive school wide approach to motivate students in hopes that they will improve their academic standing and science education, decrease absenteeism, and reduce behavior issues in our school. The effectiveness of the program was measured by comparing the study group’s pre-treatment performance during their 7th grade year to that of their 8th grade year. The results indicated that the program was not an effective school wide improvement program.
INTRODUCTION AND BACKGROUND

C.S. Porter Middle School in Missoula, Montana is home to approximately 500 6th to 8th grade students. It is the most diverse middle school in Missoula in terms of race and socio-economic status. While the majority of the students, 91%, are Caucasian, we do have a prominent American Indian population that represents 5% of our population. The remainder is split evenly amongst Asian, Hispanic and Black. Over half of our student body, 52%, receives free and reduced lunch (Chandler, 2010). The eighth grade class consists of approximately 150 students and is taught by one team. We offer our students several programs of assistance such as staffed academic labs after school, reading and math remediation programs and individual tutoring programs. Many of the programs are made possible due to the fact that we are a Title 1 school.

My study was designed to determine the effectiveness of the Student In Good Standing Program (SGSP) and the use of positive incentives. The SGSP program was piloted with the 8th grade class during the 2010-11 school year and was implemented school wide during the 2011-12 school year. The SGSP is based on an individual student’s achievement in three areas: attendance, academic performance, and behavior. Students must meet minimum requirements in each area in order to be eligible to participate in various events such as athletics, field trips, dances, the eighth grade promotion ceremony and celebration in June and Practice Activity Choice Enrichment (PACE) days. PACE days are offered twice a quarter and allow students to choose an activity to participate in if they are in good standing. Students who are not in good standing attend an enrichment activity designed to aid them in the area in which they did
not meet the good standing requirement. SGSP is a comprehensive school wide approach to motivate students toward improving their academic standing, improving attendance rates, and reducing behavior issues in our school. The focus question for this study was to determine the effectiveness of the Student in Good Standing Program as a School Wide Improvement Program aimed at achieving the outcomes described above.

CONCEPTUAL FRAMEWORK

School-wide support programs are systems designed to create a positive school environment through support in the areas of academics, behavior and/or attendance. The programs are designed to support all students to varying degrees depending on the needs of each individual (Sinnott, 2009). Often a program will support only one (e.g., behavior) or two (e.g., behavior & academics) areas. However, attendance is also an important factor as poor attendance is usually combined with academic and behavioral difficulties (Hess, Lyons, Corsino, & Wells, 1989; Rumberger, 1995; Lehr, Sinclair, & Christenson, 2004). In order to be effective, a support program should provide the student the opportunity to find success in schoolwork, offer a caring environment, relate the importance of education to the student’s future and assist with the personal problems of the student (Lehr, Sinclair, & Christenson, 2004).

Behavior programs, often referred to as school-wide positive behavior support (SWPBS) programs, are effective in reducing behavioral problems. Usually the programs are comprised of five parts: a leadership team, a school philosophy, specific behavior expectations for common areas, individual classroom expectations and an
intervention plan for students who need assistance in meeting the expectations. In addition, data must be collected and monitored to direct future action (Van Horne, Robertson, & Karvonen, 2010). This data should include the location, time and types of behavioral infractions in order to be beneficial to the leadership team (Sinnott, 2009).

The type of reinforcement of behaviors varies, but one common system usually involves tickets that are given to students who are demonstrating positive behaviors. These students are then entered into a weekly drawing or a token system is set up in which students can use tickets to buy goods at a school store. In one school, teachers carry tickets that are handed out to the students when they are seen meeting the behavioral expectations. The students then are allowed to visit the school store where they can trade in their tickets to purchase higher-level prizes such as lunch with the principal, a local fireman or police officer (Sinnott, 2009). Regardless of the system employed, when students are recognized for positive behavior and data are collected and reviewed for inappropriate behavior, those students who need interventions are easily identified (Sinnott, 2009). A school cannot implement a program and expect success without program review and adjustment. It is imperative to revise the program to address areas and/or students of concern as well as the reward system so it does not lose its luster (Van Horne, Robertson, & Karvonen, 2010).

Ideally SWPBS programs should reduce time spent on behavior issues and allow for a reduction in instructional time lost. This has been confirmed in several studies as schools that implement the program often see a rise in academic achievement as more time is spent on teaching and learning (Sinnott, 2009).
There is a correlation between problem behavior and academic skills. This becomes more of an issue as the academic demands become greater and behavior is looked at as a means to avoid these challenging tasks further limiting the student’s chance for success (Nelson, Benner, Lane, & Smith, 2004; McIntosh, Goodman, & Bohanon, 2010). SWPBS programs not only improve behavior but also have a positive effect on academic achievement. Response to Intervention (RTI), a program designed to use a combination of instruction, assessment and evidence based intervention to identify learning and behavioral problems, shows a greater impact than programs that focus on only one component (Stewart, Benner, Martella, & Marchand-Martella, 2007; McIntosh, Goodman, & Bohanon, 2010). Like the SWPBS programs, the RTI program is driven by systematic data collection, tracking the progress of all students and adjusting the instruction based on the information gathered with the goal of improving the educational experience for all (Sugai, 2009; McIntosh, Goodman, & Bohanon, 2010). While integrating the two systems seems to be an overwhelming task, the effectiveness of integration can actually make each one stronger.

The final aspect of a comprehensive school-wide support program is attendance. Most students who drop out of school do so because of disengagement. Primarily two things cause this: either the student is struggling academically or cannot meet the behavior expectations set by the school (Balfanz, Herzog, & Iver, 2007). The attendance of dropouts shows a trend of increased absenteeism as these students age. In order to prevent this slow withdrawal from school, a program must be in place to support the students in fostering a connection with the school and their interest in their education (Grannis, 1994; Lehr, Sinclair, & Christenson, 2004). This is especially true of middle
school students whose impression of how much teachers care and support them can impact their engagement and interest in class (Anderson, Christenson, Sinclair, & Lehr, 2004). The attendance programs should be similar to the SWPBS programs in that they should be comprised of a team that uses data to drive their decisions, has clear expectations and promotes good attendance (Balfanz, Herzog, & Iver, 2007). One such program, Check and Connect, was used in Minnesota and focused on students who were absent or tardy more than 12% of the prior school year. The program matched a student with a monitor who was responsible for meeting weekly with the student to promote the belief that the student could succeed and would do so through a collaborative effort involving the school, the student and the family. All efforts were based on one goal, the student’s educational success. The results of the program were very positive. Tardiness was decreased greatly, with 86% of the students engaged and arriving on time compared to just 42% prior to the enacting of the program. Attendance improved considerably as well (Anderson, Christenson, Sinclair, & Lehr, 2004).

The need to engage in a systematic school support system that promotes positive student behavior, academic achievement, and regular attendance can only improve the chances for student success. Most often problems related to these issues are dealt with by punitive methods. However, punitive methods have shown to do little to change student behavior over time (Thompson & Weber, 2010). Positive support systems are based on the idea that the behaviors are predictable and those predictable behaviors can be prevented (Scott, Park, Swain-Bradway, & Landers, 2007). Through careful planning, teamwork, data collection and commitment, school climate can change along with student achievement.
METHODOLOGY

The treatment of this study consisted of the students’ participation in the Student In Good Standing Program (SGSP). Prior to the 2011/12 school year, there were no performance criteria identified that allowed students to participate in activities such as athletics, student council, and yearbook. This study consisted of implementing performance criteria for students to meet in order to be eligible to participate in extracurricular activities. It also gave students the opportunity to participate in other special activities such as field trips, PACE activities, school dances and the eighth grade promotion ceremony. Students were presented with opportunities to choose to participate if they met certain performance criteria in the areas of attendance, behavior and academic achievement.

The purpose of this project was to measure the effectiveness of using positive incentives in order to improve student performance. This was measured by looking at data in three areas: attendance, behavior and academic performance. Their eighth grade performance was then compared to their achievement from their seventh grade year by a paired t-test. The seventh grade data served as a baseline as the SGSP was not implemented at that time. This study took place at C.S. Porter Middle School in Missoula, Montana during the 2011/12 academic year. The study included two eighth grade classes that I collected data from in order to represent the effectiveness of the SGSP. The research methodology for this project received an exemption by Montana State University's Institutional Review Board and compliance for working with human subjects was maintained.
The treatment and data collection occurred over the course of the 2011/12 academic year (Table 1). Initial data were collected through the Marks Student Attitude Survey (Appendix A) and Student in Good Standing Program Interviews (Appendix B). The sample group included ten students. These students were asked a set of questions that related to the effectiveness of the SGSP program and its impact on their learning. Both of these instruments were also administered again at the end of the treatment in order to compare pre and post results. In addition, pre-treatment data were collected from the prior school year by retrieving attendance records, behavior records and grades. The data from the students’ seventh grade year was compared to their t, eighth grade data. I focused on any changes in attendance, achievement scores and behavior referrals that might suggest an impact of the SGSP.

The student attitude survey consisted of questions that related to the students’ effort and attitude in regards to attendance, academic achievement and behavior. Students were asked to respond if they strongly agree, agree, disagree or strongly disagree along with how often they completed specific tasks associated with the areas of attendance, academics and behavior. The students were instructed to reflect on how often they participated in the various activities over the course of a school week.
Improving attendance was an area of focus in the Student in Good Standing Program (SGSP). In the students’ 7th grade year, they missed an average of 10.26 days per student (N=36). In the 8th grade year the average was 10.44 days. The paired t-test comparing mean absences for 7th and 8th grade students (N=36) showed that there was no significant difference in number of absences (t=0.62, df=35, p=0.54). While looking for trends among sub groups I noticed that the students who missed 10 or more days, 10+ Absentees, during their 7th grade year decreased their absences on average 1.6 days (n=18). The majority of the 10+ Absentees, 61%, improved their attendance during their 8th grade year. However, the improvement in attendance for this subgroup from 7th to 8th grade was not statistically significant.
Tardiness to class, another area the SGSP was designed to address, showed an increase during the eighth grade year. The 8th grade students averaged 21 tardies compared to 12.5 the prior year (N=38). The paired t-test comparing tardiness for 7th and 8th grade students showed that there was a significant difference in student tardiness ($t=2.92 \ df=35, p=0.01$). This result suggested that the SGSP does not appear to have had a significant impact on reducing student tardiness. When looking at the students’ perceptions of their own tardiness, survey data supports this, as there was little change in student perception during their 8th grade year. In the fall, when asked if coming to class on time was important to them, 96% of the students agreed or strongly agreed (N=43). This decreased to 93% in the spring. In addition, the students who stated that they are tardy several times in a week increased from seven percent in the fall to sixteen percent in the spring. Several students whose tardiness increased by more than 50% stated that it was not a big deal to be late for class or it was not their fault because the teacher in the class before their tardy let them out late.

Figure 1. Attendance for students with 10 or more absences during 7th grade compared to their 8th grade year, (n=18).
Behavior, only measured in incidents that were referred to the administrator, decreased from 137 referrals for the study group in their 7th grade year to 79 during their 8th grade year. Overall the average referral per student of the entire study group dropped from 3.7 to 2.1. While not quite statistically significant for the study group ($t=1.74$, $df=36$, $p=0.09$), there was a noticeable change in the students who were the most frequently referred. The majority of these referrals can be attributed to eight students who accounted for 82% of the referrals in the 7th grade. This same group of eight students accounted for 63% of the total referrals during the 8th grade year. The behavior infractions were comprised mainly of defiance and disrespect, repeated cell phone violations or class disruptions.
Student achievement, compared by semester in hopes of discovering the impact of various rewards, produced mixed results. In the area of mathematics, the data showed a change in performance during both fall and spring semesters. The paired t-test comparing math grades for fall semester of 7th and 8th grades showed that there was a significant difference in student achievement ($t = 3.59, df=29, p<0.01$). This was consistent with the spring semester as well ($t=5.1947, df=29, p<0.01$). In the first semester of their 7th grade year, the group averaged a C+ compared to a C in the fall semester of the 8th grade year. The decline was more prominent in the spring semester where the students were able to maintain the C+ average during their seventh grade year, but slipped to C- average for the eighth grade. In addition, the number of students who were failing increased both semesters in 8th grade, 13.3% in the fall term and 23.3% during the spring term compared to 0% for either term the previous year (Figures 3 & 4). The performance on the math portion of the Measure Of Academic Progress (MAP) test showed a decline in yearly growth. On average, the students’ Rasch Unit score (RIT) increased seven points their 7th grade year compared to three and one half points their 8th grade year. However, SGSP is not the sole contributor to students’ performance in math and therefore most likely not the primary reason for the reduction in math performance.
Student achievement in communication arts did not experience a significant impact when a paired t-test was applied to semester performance for 7th grade compared to that of 8th grade ($t= 0.98, df = 29, p= 0.34$ fall semester and $t= 0.97, df= 29, p= 0.3424$ spring semester). The seventh grade year communications arts grades showed that 16.7% of the students earned A’s in the fall term compared to 33.3% in the spring term.
Students decreased the number of D’s by 10% and no students failed. As 8th graders, 26.7% earned A’s for the two semesters and those who failed went from 10% in the fall to 0% in the spring (Figures 5 & 6). The growth in the MAP scores for reading from the students’ 7th grade year compared to that of their 8th grade year was not impacted significantly by the SGSP ($N=30, t=0.45, df=30, p=0.65$). The average growth was very similar over the two years with a value of 3.13 points for 7th grade compared to 3.97 during their 8th grade year.

![Figure 5. Communication arts fall semester grade, (N=30).](image)
Science achievement, based solely on semester grades, showed changes that were not statistically significant for either the fall semester ($p=0.94$) or the spring semester ($p=0.81$) when comparing the grade earned in $7^{\text{th}}$ grade to that of $8^{\text{th}}$ grade. While the changes were small, they did improve with 10% of the students failing the fall semester of $8^{\text{th}}$ grade compared to 16.7% the prior year. In the spring semester, this decreased to 3.3% in the $8^{\text{th}}$ grade as opposed to 10% for the $7^{\text{th}}$ grade year. Those who earned higher grades, such as an A or a B, were fairly consistent over time. The students who had earned a C showed similar performance with 33% in the fall term of their $8^{\text{th}}$ grade year and 36.7% for the fall term of the $7^{\text{th}}$ grade year. Those who earned C’s in the spring term of their $8^{\text{th}}$ grade year decreased to 26.7% compared to 33.3% for the same term of their $7^{\text{th}}$ grade year. The most change appeared with the students who earned a D grade. The fall term $8^{\text{th}}$ grade had 16.7% of the group compared to 33.3% in the spring. In their $7^{\text{th}}$ grade year 10% of the students earned a D for the fall term, which increased to 16.7% for the spring term (Figures 7 and 8).
Student attitude towards completing homework decreased during the year. In the fall of their 8th grade year, 92.3% agreed or strongly agreed that homework was important to their success in school (N=45). When asked again in the spring, 86.9% felt it was important. The attitude towards the importance of studying for tests also declined. Initially 42.2% of the students agreed that studying for tests and quizzes was important.
however, when asked in the spring only 34.7% agreed or strongly agreed. SGSP seems to have little or no effect on student attitude towards studying and completing homework.

The use of our on-line grading program, Zangle, saw a slight decrease based on student perception of those who checked their grades at least once a week. In the fall 57.7% of the students reported visiting the site weekly compared to 54.3% in the spring. However, our school had 3,204 student accesses through Student Connect compared to only 1,133 the prior year. In spite of this perceived decline, students reported that those who spoke directly to their teacher about their grades increased six percent from fall to spring. While the increased visits reported on Zangle cannot be attributed solely to the SGSP it may have been contributing factor.

**INTERPRETATION AND CONCLUSION**

As a school wide improvement plan, the Student in Good Standing Program proved only to be successful with the lowest performing students in most categories. This study provides evidence that attendance, when made a priority, can improve for those students who historically have missed 10 or more school days. Those who did not improve attendance, when asked, responded that it was either a medical issue or, as one student stated, “it was a hard transition from seventh grade.” When pressed, the student shared that she was going through a transitional period with her family (Student 18, Figure 1). C.S. Porter Middle School has not solved our attendance issue but we have made progress and continue to brainstorm ways in which to promote an environment that fosters a connection with the school and the individual’s education (Balfanz, Herzog, &
Iver, 2007). C.S. Porter has an attendance team in place that checks in with the family and students when absenteeism is a frequent occurrence. A staff member is also assigned to check in with the student on a daily basis in order to promote better attendance. Attendance improved with over half of those students, 10+ absentees, but remained relatively unchanged elsewhere.

Behavior issues had results similar to that of attendance. Those that had received many referrals during their seventh grade year improved the next year. However, the majority of the students had similar results as the prior year. As a school, we have in place the leadership team, school philosophy, specific behavior expectations for common areas and the classroom but need to develop a consistent plan for intervention for students in need assistance with behavior expectations. Additionally, I found it very difficult to determine exactly what the referral was written for, as our recording system does not allow details such as location, time and type of behavioral infraction. It should also be noted again that minor infractions were not recorded. Due to the inability of the school to track this we were unable to direct future action based on data in order to direct our next steps. In the future C.S. Porter is utilizing a different method of recording infractions.

Tardiness, which increased greatly for the study group, is evidence that as a school we need to review what we are doing and take steps to ensure this trend does not continue. One issue is the lack of consistency amongst the staff as to when a student is tardy and the lack of consistency in enforcement. This could be due to the fact the school moved to a no bell policy. However, the data shows that this is an area in need of improvement.
The greatest weakness of the program involved consistency. SGSP was designed to reinforce positive actions with rewards, one of which were the PACE days. These were only offered twice a semester and the choice of activities did not appeal to the students. When asked the students consistently responded that the rewards were not fun or they did not care about missing them. The larger rewards such as the ski trip and promotion activities were more effective as many of the students stated they would be disappointed if they were unable to participate. The rewards system needs to be reworked in a way that allows for more frequent and meaningful rewards. It should also have opportunities for the vast majority of the students to be successful. As one student stated, she felt the program was just a way to “remind her that she is failing”.

VALUE

The experience of completing an action based research project on the Student In Good Standing Program (SGSP) has allowed me to grow in several ways. I now have the ability to not just comment on what should be changed but allow insight into how we can investigate and track what is happening in our school and classroom in order to make an informed decision.

As a member of the committee in charge of the implementation and design of the SGSP, I feel can offer educated suggestions to the group as I have a good understanding of what our needs are and how to fulfill them. This has already gone into effect, as we will be making changes in the upcoming school year in several areas. I believe my input was part of that action. In addition, I feel that I could take these skills and apply them to any question I have whether in my classroom or a school wide decision.
Lastly, it is very important to me that as an educator, I always have the student’s best interest in mind. While this is always the intention, I feel that having a systematic approach to question, study, and review what I am implementing is having the desired positive impact on the students. The action based research model insures that I will know what impact my actions have on my students and thus make me a stronger educator and advocate for those who I teach.
REFERENCES CITED


APPENDIX A

MARKS STUDENT ATTITUDE SURVEY
**Student Attitude Survey**

Participation in this research is voluntary and participation or non-participation will not affect your grades in any way. Please answer each question as honestly and the best that you can. The purpose of this survey is to help gather data about the Student In Good Standing Program. Your responses will remain anonymous.

1. Coming to class on time is important to me.
   
   Strongly agree    Agree    Disagree    Strongly Disagree

2. Coming to school is important to me and I do not like to be absent.
   
   Strongly agree    Agree    Disagree    Strongly Disagree

3. Completing homework is an important part of my success in school.
   
   Strongly agree    Agree    Disagree    Strongly Disagree

4. Completing in class work and participating during class is important to me.
   
   Strongly agree    Agree    Disagree    Strongly Disagree

5. I study regularly for tests and quizzes.
   
   Strongly agree    Agree    Disagree    Strongly Disagree

6. I try hard to participate in class and follow directions.
   
   Strongly agree    Agree    Disagree    Strongly Disagree

7. It is important to me that I cooperate with other students and teachers.
   
   Strongly agree    Agree    Disagree    Strongly Disagree

For the following questions, circle the answer that best describes how often you do each of the activities over the course of one school week.

8. I check my grades on Zangle.
   
   Never    Once or twice a week    Several Times

9. I discuss my grades with a teacher.
   
   Never    Once or twice a week    Several Times
10. I complete homework, class work, and regularly study for tests and quizzes.

   Never          Once or twice a week          Several Times

11. I am tardy to a class.

   Never          Once or twice a week          Several Times

12. I am absent for a full day or part of the school day.

   Never          Once or twice a week          Several Times

13. I receive a detention or am sent to the Behavior Intervention Room (BIR)

   Never          Once or twice a week          Several Times
APPENDIX B

STUDENT IN GOOD STANDING INTERVIEW QUESTIONS
Student interview

How has the Student In Good Standing Program impacted your learning?

How has the program affected your classes? How has the program affected other students? (give examples)

Have you noticed any changes in other areas such as field trips, dances etc.

What do you think about the student in Good Standing rewards we have given such as the afternoon dance, movie day or the ski trip?

Do positive incentives such as student of the month, perfect attendance lunch, pace days etc. influence decisions you make in regards to your effort at school?

What type of incentives do you think kids respond to?

If you were the teacher or the principal, how would you change the program? Why would you do this?

What are the reasons students are unable to meet the requirements to maintain “Student in Good Standing” status?

Is there anything else you would like to add?