

Running Head: Parental Notification as an Aid to a Passing Grade in High School Earth
Science Classes

PARENTAL NOTIFICATION AS AN AID TO A PASSING GRADE IN HIGH
SCHOOL EARTH SCIENCE CLASSES

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ABSTRACT

Research question: Does Parental Notification about Missing Assignments Lead to Improved Passing Rates among Earth Science Students?

Hypothesis: Teacher notification of parents at regular intervals when a student has missed two or more assignments during a marking period will reduce the number of students who fail Earth Science.

Earth Science is the most basic science class offered at Franklin Central High School in Indianapolis, Indiana. Most of the students who receive failing grades also seem to have a poor record of turning in assignments. This research will be a study of the use of an on-line parent notification system provided by the software programs included within the services of Infinite Campus®. This system allows parents to access their students' grades on-line as well as to monitor progress. This project will contribute to the literature on parent-teacher communication at the high school level and the use of technology to improve student success.

Research Question

Does notifying parents about missing assignments, when students have missed at least two assignments a quarter, compared to no notification lead to improved passing rates among Earth Science students?

Introduction

Parental involvement in schools has been an area of concern in schools for a long time. Many studies have been cited that show a correspondence between parental involvement and student success. (Greenwodd & Hickham, 1991) Today's world is changing around us at a phenomenal rate. The use of technology is on the rise. Many businesses are using email as a way to increase contact within their corporations and increase individual as well as overall productivity. (Markus, 1994) This benefit should not only be applied to the business world, but the use of technology to increase parental involvement at the high school level could be used to help increase student passing percentages. Research has proven that when parents show an interest in their child's education by being actively involved, students tend to do better and experience more satisfaction in their school work. (Gonzalez, 2002) While there seems to be much research in this area at the elementary school level, research appears sparse at the high school level. Unfortunately, along with a decline in parent-child communication at the high school level, there also seems to be a decline in the level of teacher-parent contact. (Strom & Strom, 2002-2003) Parental support is especially vital at this time as it is a time when students are especially susceptible to peer pressure and may make poor choices that could contribute to a host of negative consequences including dropping out

of school altogether. (Rumberger, Ghatak, G, Ritter, & Dorbusch, 1990) This lack of communication may make it difficult for parents to keep up with their teenager's progress in school during the high school years. Often difficulties do arise when a teacher finally does contact a parent. Conflict and frustration often ensues when teachers try to contact parents leaving phone messages or contacting them at inconvenient times, which can affect teacher and parent attitudes. (Strom & Strom, 2002-2003) This researcher believes that putting a program in place where parents know what type of communication and when to expect communication can alleviate some of this tension. Parents do tend to become more involved if they feel that teachers and students desire their input. (Hoover-Dempsey, C, Walker, Reed, DeJong, & P., 2001) This also helps to make sure the information sent to parents is not intercepted by the student. It has been this researcher's experience that students often intercept and dispose of the traditional forms of communications to parents before the parents receive what the students view as negative reports on their progress. Parents and teachers working together are also less inclined to blame one another for lack of student progress. (Strom & Strom, 2002-2003)

There seems that there should be some influence in informing parents when their children are falling behind in turning in their assignments. This research should prove valuable to teachers of grades K-12. If the hypothesis is correct it will allow a teacher to perform an intervention that could be successful in improving their students' chances of success. While there is a large amount of information available in the literature that shows parent teacher communication can be a valuable tool in aiding student performance, there is very little discussing specific types of intervention. This research could provide a specific strategy that can be used as an intervention. The use of this

strategy is also made much easier for teachers by the improvements in modern communication and computers of this era. There are many software programs available at this time that can aid in sending email alerts when a student has missed assignments. (Ramirez, 2001) In this research, the process will occur using the Infinite Campus© functions available to teachers at Franklin Central High School. The original communication can be followed up by the parents through the use of emails as well as the use of phone calls or face to face meetings with the teacher. The follow-up communication is a parent choice and all three methods have been used, with email likely to be the most common due to its convenience. Although some parents do not respond, research at this stage has seemed to suggest an increase in parent communication from previous years.

The data collected this year and last year will be compared to data from previous years (where available). There seems to be no doubt that improved communication is valuable, but the question remains, will this method prove reliable? Most of the research on this topic seems to have been below the high school level. This study should be able to justify that this communication at the high school level is just as useful. Some of the points addressed by this study will be:

- Parent and teachers working together can help student understanding.
- Early intervention by parents and teachers can be critical.
- Many studies show parent involvement may not be effective even if parents feel they have been effective. If follow up on this research shows no improvement in passing scores, parents may be surveyed as to how they viewed the

strategy. (How do parents feel about being notified? Do they feel it had value? What did they do when they received notice of the missing assignments?)

- This type of research seems abundant at the elementary level where a teacher can have a more personal relationship with parents and students (fewer numbers of students overall), but a strategy where a teacher is working in a situation with more than 160 students each day seems needed.

Participants

The subject groups were Earth Science students at Franklin Central High School. This high school is located on the south side of Indianapolis. Franklin Central High School is a township school and has a mixed enrollment of both rural and suburban students. Earth Science is considered the most basic science course taught at Franklin Central High School. Many of the students in this course are simply satisfying their science requirement for graduation and do not plan to seek careers in the area of science. Motivating students in this situation can be somewhat challenging and various strategies are employed. Parent involvement may be one way to help these students succeed.

Methods

This study will be undertaken to analyze whether improved parent contact will have any effect on passing rates of students who miss turning in assignments. Parents will be notified at specified times if the students for whom they are guardians have not turned in two or more graded assignments. The hypothesis would be that this will improve the percentage of students who not only pass Earth Science but also graduate from high school, as most Earth Science students need this science credit to be completed in order to receive their diploma. Under the methods of this study, only the first stage of the

effect on the percentage of students passing Earth Science will be evaluated. If this percentage is proven to increase, overall graduation rates could be studied.

This study will be carried out using the Casual-Comparative research technique. Passing rates for students from the 2007/2008 and 2008/2009 school years will be used as our baseline data. We would like to have used several past years as a baseline to improve the reliability of our results, but some of that data is not available due to a change in software programs at the high school. The previous data has not been made available and may be difficult or impossible to obtain for this study.

The variable of interest is improved parent contact. During the first semester of the 2010/2011 school year as well as the last semester of school year 2009/2010 parents/guardians have been notified when their students have missed two or more assignments. This notification occurred at the three week interval in the grading period. It is hoped that by notifying parents of their student's struggle to develop good work habits that parents will become more involved and student success rates will increase.

Using the software programs Infinite Campus© the following letter will be generated and sent to the appropriate parents/guardians:

"Your student [student.firstName](#) has the following missing assignments [missingMessenger.assignments.LIST](#). These assignments may not be made up since the due date has passed but I am contacting parents so you can encourage your student to keep up with daily work and to be sure all assignments are handed in.

It is my goal this school year to increase the passing rate of earth science students. Experience tells me that the main reason for poor grades is missing or incomplete homework.

Midterms are approaching and it is not too late to make improvements due to past problems with the course grade. Please discuss this with your student and be sure to contact me if you have any questions.

Thank you for your time and all you do to help at home.”

This message is extremely easy to generate within the confines of the program. The teacher would need to access the “reports” area of the program and then merely select the missing assignments tab. They would then have the program generate a list of students with two or more missing assignments. In the comments section, the above message could be written or the cut and paste method could be used. The teacher is then prompted by the software to send the message to the parents/guardians of the students that have met the criteria. If the teacher elects to send this message it will go to a list of email addresses in the school database. This process only needs to be done for each class rather than each student, streamlining the notifying process immensely.

Data was collected from the baseline group (partial 2007/2008 and 2008/2009 students) as well as our variable groups from 2009/2010 and 2010/2011. This data was tabulated and a comparison was made of the mean as well as the standard deviation. The percentage of students who failed each class during the semesters being tested and these percentages were then compared to like percentages of the baseline group. The significance of our data can then be subjected to t-test to see if there is actually a significant difference or if our results are due to randomness.

Results

(VARIABLE) CLASS SIZE	27	27	19	23	25	15	16	25	28	18	30	26	26	26	25	27	27
# STUDENTS WHO FAILED	5	4	3	5	5	2	3	1	4	2	9	5	6	4	3	5	6
% FAILURES	19	17	16	22	20	13	19	4	14	11	30	19	23	15	12	19	22
(CONTROL) CLASS SIZE	24	25	25	26	21	30	15	28	23	30	28				27	28	28
# STUDENTS WHO FAILED	13	8	4	4	6	8	6	5	6	13	6				9	10	9
% FAILURES	54	32	16	15	29	27	40	18	26	43	21				33	36	32

t-Test: Two-Sample Assuming Unequal Variances

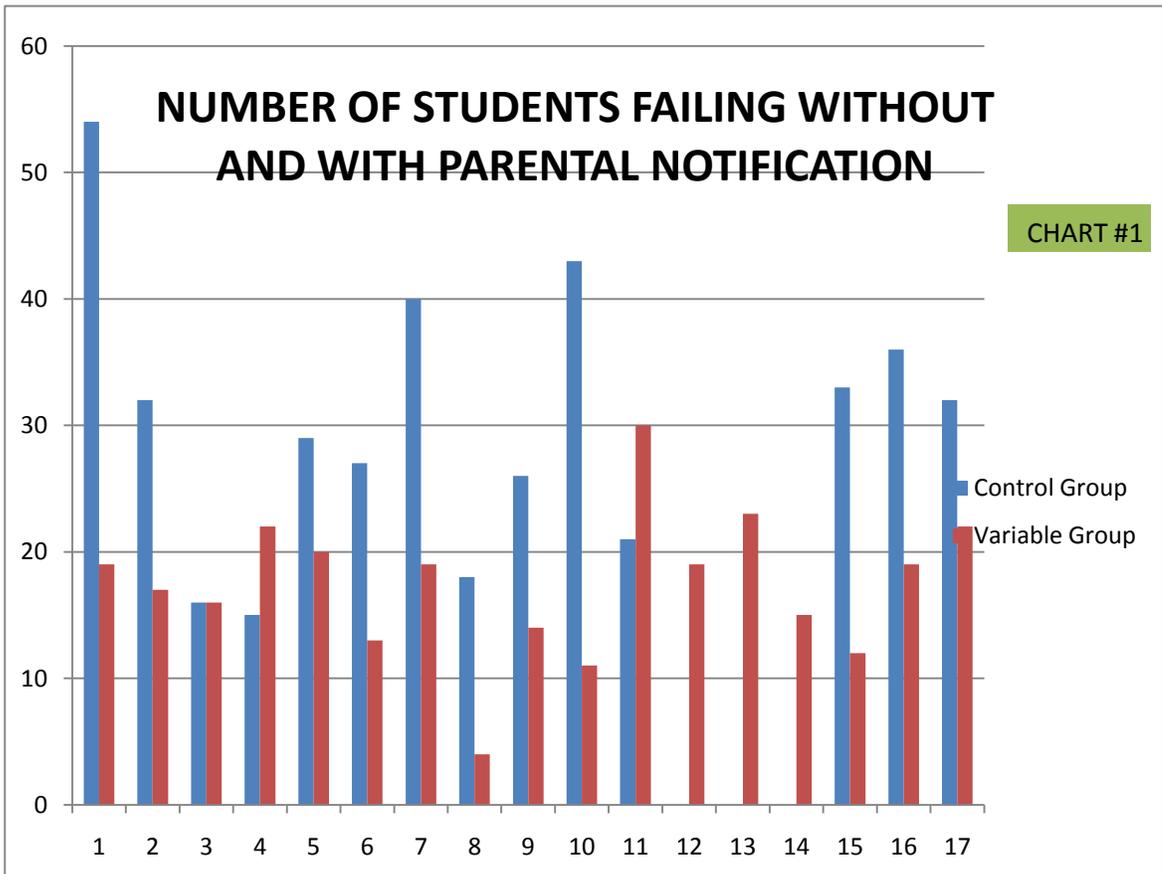
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	30.14286	17.35294
Variance	120.7473	33.61765
Observations	14	17
Hypothesized Mean Difference	0	
df	19	
t Stat	3.927963	
P(T<=t) one-tail	0.000452	
t Critical one-tail	1.729133	
P(T<=t) two-tail	0.000903	
t Critical two-tail	2.093024	

Table 1

The results of the t-test (Table 1):

$T(19) = 3.93$, $p < .0009$ allows us to assume the results are valid. The mean for the group of students who did not receive parental notification (30.14) is proven to be significantly different from the group whose parents were notified of missing assignments (17.35). The standard deviation was 10.59. If we look at these results as a percentage the

group that received parental notification had an 18% failing rate as opposed to a 32% failing rate for the group that did not receive the treatment. These results allow us to assume our hypothesis is supported and parental notification has an impact on decreasing the number of students failing Earth Science.



CONTROL GROUP = NO NOTIFICATION

VARIABLE GROUP = PARENTAL NOTIFICATION

Discussion

Franklin Central High School is listed as a rural school within Indianapolis Township Schools, but with the explosive growth rate of the community and housing developments within the surrounding area, Franklin Central is more correctly classified as a suburban school. It services students in grades 9-12. The enrollment for the 2008/2009 school year was 2453 and is expected to grow over the next several years. 420 students graduated in 2007/2008 which represents a graduation percentage of 81.1. The graduates of Franklin Central High School choose many paths in life. In the graduating class of 2009, 228 proceeded to a four year college, 127 chose a two year college, 11 went on to Technical/Vocational schools, ten chose to serve our country in the United States Military and 50 chose not to pursue higher education at the time of their graduation. The student body over this same period of time was composed of an ethnicity represented by a mixture of 83% White, 7% Black, 4% Multiracial, 3% Asian and 3% Hispanic students. This population is composed of 9% receiving reduced lunch rates and 17% receiving free lunch (an increase of 11% over the past ten years). The addition of a new Freshman Academy which opened in the 2009/2010 school year has done much to alleviate crowding in the hallways. The academy's overall effect on student population remains to be seen. Several pilot and unique programs are underway at Franklin Central. These programs include one group of students going "paperless" via net book computers. Also along the lines of technology all teacher classrooms have been equipped with "Presentation Stations". These stations include an Elmo, digital projector, internet based television, CPS clicker software, Image Mate software with three Mobis, and integrated sound amplification including two microphones. Franklin Central High School is also a

Professional Learning Community in which the teachers are given time each week to collaborate and improve teaching practices.

While it may appear as if Franklin Central is a fairly homogenous population, this is anything but true. The students at this high school range all the way across the socio-economic community. The students come from the small town of Wanamaker, the local farm community, inner-city bussing students, as well as the children of affluent families in the local area. It is due to this diversity that building an effective curriculum is very challenging.

The literature is very sparse on a topic of this sort. One of the reasons there may not be much written on this type of communication is that this resource has only recently become available on wide scale basis. While the internet has been around for quite some time, it still seems very common for secondary school teachers to rely mostly on the pencil and paper method to record students' grades. This makes it more difficult to produce results, mass messages and reports that can be easily generated with the grading software available to today's educators. (Ramirez, 2001)

In this study the researchers were looking to take a proactive rather reactive approach to parent-teacher communication. The idea was to notify parents before the student had become too far behind to catch up and pass the class. This is more difficult than it sounds, especially for high school teachers using only paper grade books to record assignments. These teachers often have in excess of 150 students. In a situation such as this it may not be uncommon for more than 20 students to fail to turn in an assignment. The number of phone calls or individual emails that would need to be generated could become an enormous if not impossible task.

The results of this study do indeed represent an improvement in reducing the number and percentage of students who fail Earth Science at Franklin Central High School.

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