EFFECTS OF GROWTH MINDSET AND BELONGINGNESS MESSAGING IN AN ONLINE CLASSROOM

by

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ABSTRACT

RYAN HALL. Effects Of Growth Mindset And Belongingness Messaging In An Online Classroom

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This study examines how growth mindset and belongingness messaging can be applied to instruction in an online classroom to improve student outcomes. Research has shown that growth mindset and belongingness messaging can be used to improve student outcomes in traditional classrooms. This analysis uses a regression model to compare exam scores and homework averages of two different asynchronous online courses of general psychology to see if the same effects can be reproduced in online classrooms.The courses were taught at the University of North Carolina at Charlotte in the fall of 2020. Both courses were designed using the same shell course and administered the exact same assignments with the exact same grading scale. The only difference between the courses was one course instructor used growth mindset and belongingness messaging language when communicating with students. This required the instructor to make changes to language in the syllabus, weekly email communications, and assignment directions. Analysis found that the treatment had no measurable effect on student exam grades, but did have a statistically significant effect on students' classwork and homework averages. This initial analysis of growth mindset and belongingness messaging's use in online classrooms encourages further exploration of what teaching strategies can be used to positively affect student outcomes when learning online without sacrificing the benefits of online education.

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CHAPTER 1:INTRODUCTION

The profession of higher education is in a constant state of flux. New pedagogical practices are emerging at a rapid pace in an attempt to manage the ever-changing challenges modern education faces. These challenges range from the increasing diversity of student bodies and needs, to deploying new modern classroom formats. Traditionally, university classrooms had characteristically rigid structure, lectures, instructor designed syllabi, and fixed schedules (Rovai et al., 2007). These classrooms were also typically filled with students who completed their primary education in a very similar format, giving them years of practice to attempt to be successful in this specific format of education.

A wide range of different technological and social developments has led to changes in education. A large number of institutions are turning to new classroom formats, like offering online courses. This has allowed these institutions to meet the demands of contemporary education. The invention of the internet and its widespread adoption has made sharing resources between students and teachers at an almost instantaneous rate a standard practice in most modern classrooms (Richard & Haya, 2009). Society has embraced these technological leaps and become more hyperconnected, and this virtualization of day-to-day living has extended into learning environments (Fredette et al., 2012).

Distance learning has made education more accessible for students who cannot or prefer not to attend in-person classes, as time-related constraints are eased by being able to access course materials and assessments via the internet (Oliveira et al., 2018). While most institutions of higher education have offered some form of distance learning, at least in limited capacity, the world of online learning dramatically changed in March of 2020. COVID-19 made traditional in-person instruction untenable for a large number of universities and colleges across the world

(Dhawan, 2020). During the initial reaction to the COVID pandemic in the United States, all higher education institutions were forced online following requirements for government mandated social distancing (Gupta et al., 2020). This led to professors and students alike being thrust into nontraditional classroom formats. For most of these individuals, this was their first experience with online classrooms (Trout, 2020). This surge in need for online instruction has created a difficult situation that highlights some of the new challenges that can come with online learning (Ferri et al., 2020).

Research has found that some of the potential difficulties of distance learning in online classrooms are higher rates of undesirable outcomes such as failing, incomplete grades, or withdrawing from a course for students when compared to their traditional in person counterparts (Zounek & Sudicky, 2013). While research studies of pedagogical best practices to help mitigate these potential issues do exist, they are often evaluated via their ability to improve student outcomes in a traditional classroom setting (Bostwick et al., 2020). Student enrollment in distance learning is on the rise, even with overall college enrollment experiencing a small decline (Trout, 2020). Understanding what constitutes best practices in online classrooms is an immediate need.

A very popular teaching best practice is the cultivation of a growth mindset in students and the use of belongingness messaging when delivering instruction. These techniques are designed to improve retention and academic achievement in the standard classroom format. Growth mindset is defined as encouraging students to view intelligence as a malleable trait that they can work to improve; therefore, the cultivation (fostering) of a growth mindset in students encourages them to view failures as an opportunity for learning and growth (Dweck, 2006). Belongingness messaging is the use of specific language by the instructor to help foster a sense

of community in a classroom and has been shown to be connected to student motivations and academic success (Sánchez & Ríos 2020).

The present study examined if applying the pedagogical practice of growth mindset and belongingness messaging to online courses can help improve academic achievement of students. The present study further examined if including growth mindset and belongingness messaging in course instruction has a measurable effect in reducing the total number of students who receive a grade lower than 70 in an online classroom.

Evolution of the Online Classroom

Distance education began in 1873 when Anna Eliot Ticknor founded one of America's first correspondence schools, the Society to Encourage Studies at Home (Caruth & Caruth, 2013). The goal of this organization was to increase access to education for women and included more than 7,000 female students. This illustrates how the core value of making education more accessible has been driving educational research for years (Cubberley, 1919; Sadeghi, 2019). New technology developments, such as radio and internet, have been leveraged to expand the reach of distance learning after becoming commonplace in American homes (Dede, 1991). With increasing availability of internet access and affordable personal computers, the largest sector of distance learning has become the online classroom (Evans & Haase, 2001). In the present day, the infrastructure needed for online learning is and has been well established for some time thanks to the rapid improvements in internet speed and the commonplace use of computers in schools and businesses (Clarke & Hermens, 2001).

Advantages and Disadvantages of Online Learning

A main advantage of the online classroom for students is flexibility. By not having a hard start and end times for classes, students are able to choose when to focus on learning and can

usually make allowances for unrelated work and family issues (Hiltz & Turoff, 2005). Online learning also gives students a certain degree of anonymity and individuality, which is often present in an online space. The use of chats, emails, and forums can help students overcome initial awkwardness and increase student engagement (Zounek & Sudicky, 2013). Cost is another huge advantage for students in online classrooms. Online learners save money by not being required to travel and oftentimes on tuition itself (Arkorful & Abaidoo, 2015).

Online classrooms have led to education becoming significantly more accessible for non-traditional students (Geith & Vignare, 2008). Students are more likely to be able to attend class while working a full-time job and maintaining family responsibilities such as caring for children or other dependents. A large number of studies have documented the differences in the demographics of students who are learning in online classrooms vs traditional learning formats. Colorado and Eberle (2012) found that most students in online classrooms tend to be older than 30, enrolled part time, and work a full-time job. For many of these students, further education is only possible because of the online classroom.

A potential disadvantage of learning in an online classroom is that it typically requires more self-discipline and time management in order for students to be successful (Daymont et al., 2011). While the technology and infrastructure needed to learn online is widely available, students still need to possess the skills and knowledge to use these resources to engage in an online classroom (Zounek & Sudicky, 2013). Extended computer use can also lead to physical and psychological issues (Hayes et al., 2007). These factors can often lead to online courses having a higher attrition rate than traditional in person classes (Angelino et al., 2007).

Covid-19 and Online Learning

In 2019, the world changed forever with the outbreak of Covid-19. Proclamation 9994 of March 13, 2020 issued by the then sitting president of the United States, Donald Trump (2020), declared a national state of emergency. Federal guidelines required non-essential businesses to close and for individuals to practice social distancing (Gupta et al., 2020) . A large number of universities were forced to switch to online learning in order to adhere to these new government mandates. The online classroom model for learning allowed higher education to continue during the global pandemic (Trout, 2020).

These changes implemented to slow the spread of Covid-19 made the traditional classroom model un-usable. This also limited what pedagogical best practices could be used. The majority of education research is based around being in a traditional classroom. The widely utilized pedagogical practice of the flipped classroom has students complete pre-work on their own then meet in person in a traditional classroom setting to discuss their understanding and ask questions.(Voigt et al., 2020).

Growth Mindset and Belongingness Messaging

Defining and operationalizing growth mindset can vary widely between disciplines (French, 2016). In 2006, Dweck altered education research around the world with the publication of *Mindset: The New Psychology of Success*. Dweck (2006) defines "growth mindset" as the belief that intelligence and 'smartness' can be learned and that the brain can physically change from learning. Dweck's studies (2006) have found that approximately 40% of students in the U.S. display characteristics of a growth mindset, 40% display characteristics of a fixed mindset, and the remaining 20% show a mixture of the two profiles. Multiple studies have found that when students are exposed to an intervention to promote a growth mindset and move

them away from a fixed mindset, they experience improved academic outcomes (Dweck, 2006). Dweck's definition of "growth mindset" has been operationalized in countless studies from around the world. Research has found that growth mindset is a learning motivator for students in China (Zhao et al. 2018) . Others have used growth mindset interventions to reverse declining academic trends in minority students in the U.S. (Blackwell et al., 2007).

Evidence of brain plasticity has shown that the brain will physically change in response to the effort an individual puts into learning a new skill, such as reading or writing (Bunge et al., 2007). This research about brain plasticity has altered contemporary teaching and grouping structures that were originally grounded in the ideas of fixed student ability (Boaler, 2010). This evidence of brain plasticity and the effectiveness of growth mindset has influenced education systems around the world in reconstructing their approach to learning to address the theory that effort is the primary factor to improving educational outcomes (Stigler & Hiebert, 1999).

Belongingness messaging helps foster a sense of community and has been shown to be connected to student motivations (Sánchez & Ríos, 2020). Students who feel they belong are much more likely to build strong bonds with peers and instructors and create social support to be successful academically (Brouwer et al., 2019). Belongingness interventions have been shown to improve academic outcomes of higher education students in traditional classroom settings (Gilken & Johnson, 2019). Belongingness interventions can take the form of specific task interventions or shifts in pedagogical practice, such as belongingness messaging in instruction (Finley, 2018).

Present Study

While other studies have evaluated the efficacy of using growth mindset and belongingness messaging to improve academic outcomes of students, these studies have largely

examined these benefits in traditional classroom models. Aronson et al. (2002) examined the effects of a growth mindset intervention among college students and found that a growth mindset intervention led to a clear gain in academic achievement. Other studies have evaluated best pedagogical practices for online learning, but not specifically growth mindset and belongingness messaging. Grant and Thornton (2007) found that pedagogical practices such as giving prompt feedback and increasing time on task improved online learning outcomes. To our knowledge, very few researchers have examined effective implementation of growth mindset and inclusive learning languages in an online classroom environment.

We therefore predicted that the implementation of growth mindset and belongingness messaging instruction will have a positive effect on the academic outcomes of students in online classrooms. Furthermore, we predicted the use of growth mindset and belongingness messaging can reduce the number of students who receive a final grade of less than 70 in online classrooms.

CHAPTER 2: METHODS

Participants

A convenience sampling technique was used to select participants for this study. During the fall of 2020, two large sections of the same 1000-level general education college course were recruited for data collection. The data for the two sections were obtained with the permission of the instructing professors and approved by an institutional review board. The two courses consisted of 552 students total, with the control group consisting of 281 students and the treatment group consisting of 271 students. As data were originally collected for standard educational purposes, no participants were incentivised to participate in this study. All identifying information of the students was re-coded by the course instructors so that students could not be identified by the researcher or any other parties. No students in the two courses were excluded based upon demographic information.

Measures

Exam scores were used to calculate a regression coefficient for each individual student in each section. Exams 1 , 2 ,3, and 4 all contained 50 multiple choice questions and covered non-cumulative topics. Students had 75 minutes to complete each exam. While completing the exams, students were required to use the Respondus secure browser software and a webcam proctoring system to prevent cheating. A regression coefficient was then calculated for each section by averaging all of the students' regression coefficients together. The regression coefficients will then be compared between the control and treatment groups. To test the second hypothesis (the use of growth mindset and belongingness messaging can reduce the number of students who receive a final grade of less than 70 in online classrooms), a chi squared test was

used to compare the the number of students who received a final grade of less than 70 between the two groups.

Procedures

Data were collected from two general psychology (PSYC 1101) courses taught at the University of North Carolina Charlotte in the fall of 2020 in online classrooms. Both courses were constructed from identical shell courses and used the same exams. The only difference between the two course designs was application of the experimental treatment of the present study. One course (Treatment Group) included alterations to the syllabus, weekly announcements, and course instructions to include growth mindset and belongingness language. These alterations were guided by evidence-based practices provided via a faculty development training program. All identifying information was re-coded by the course instructors such that all identifying information was removed from the dataset. Participants in the control course were coded as 0 and participants in the treatment group were coded as 1. The mean of each exam and the final exam were calculated for both groups.

Plan of Analysis

R statistical software was used to conduct all analyses. Descriptive statistics were first calculated to examine means (M) and standard deviations (SD) for all variables of interest. The data from the current study were then analyzed using a mixed effects regression to compare all four exam scores between the treatment and control groups over the course of the semester, with the condition exam number as a fixed effect and the random effects included random intercepts for student ID. To test if (H1) growth mindset and belongingness messaging improved academic outcomes of students in online classrooms, each student had their four exam scores graphed based on score and exam number, 4 data points per student. These data were then used

to create a line of best fit for each student's exam scores. The slope of these lines were then averaged together to create a line of best fit for each class and these two lines were compared. To test if (H2) growth mindset and belongingness messaging can reduce the number of students who received a grade less than 70 in online classrooms, a Chi Squared test was used to compare the ratios of students in each class that meets the described criteria.

CHAPTER 3: RESULTS

The present study examined if applying the pedagogical practice of growth mindset and belongingness messaging to online courses could help improve academic achievement. Overall, both the control and treatment groups reported a D average for total exam scores (see Table 1). The means and standard deviations for the individual unit exams were also calculated and reported in Table 1. The control groups' mean exam score was higher than the treatment group on all exams except for Exam 4. Exam 1 for the treatment group was the only exam that averaged a grade of an F and Exam 3 of the control group was the only exam that averaged a C. All other exams averaged a D.

To test Hypothesis 1, a linear mixed model was used to compare exam scores between the treatment and control groups. The model uses a random intercept and a fixed slope. The random effects were ID (Y Intercept). The fixed effects were Occasion and Exam Scores. The model found that the treatment did not have a statistically significant effect on the outcome [b = -1.032, 95% C.I. (-3.51, 1.45), p = 0.42]. Students exposed to the treatment did not perform significantly differently on their exams as the semester progressed than students in the control group. Refer to Table 2.

An additional analysis was conducted to further investigate H1. The means and standard deviations for exam grade average, final exam, and course grade were calculated and reported in Table 3. The course allowed students to drop their lowest exam. The exam grade average in this analysis does the same. The control groups' mean exam grade average score was higher than the treatment group by 0.55. The control groups' mean final exam grade score was higher than the treatment group by 1.34.The control groups' final grade average score was lower than the treatment group by 1.5. Refer to Table 1.

A hierarchical linear regression was conducted. The predictor variable was treatment after controlling for exams and finals' grades, and the outcome variable was final grade for the course. The predictor variable was found to be statistically significant [b = 2.15, 95% C.I. (0.82 , 3.47), p = 0.002], indicating that moving from the control group to the treatment group final grades improved final grades by 2.15 points. Refer to Table 3.

A chi squared analysis was conducted to investigate H_2. The results of the chi square test of association 2x2 shows that there is no statistically significant association between receiving a grade less than 70 and being exposed to the treatment condition (X^2 (df = 1 , N = 552) = 0.18 , p = 0.67). The control group had 43 students out of 281 (15.3%) receive a grade lower than a C. The treatment group had 37 out of 271 students (13.65%) receive a grade lower than a C. Refer to Table 4.

CHAPTER 4: DISCUSSION

The hypothesis (H1) growth mindset and belongingness messaging will improve academic outcomes of students in online classrooms was not found to be statistically significant by the initial proposed statistical model. The additional analysis did support the hypothesis. When directly compared to each other, students in the treatment group averaged higher final grades. The Second Hypothesis (H2) including growth mindset and belongingness messaging in course instruction has a measurable effect in reducing the total number of students who receive a grade lower than 70 in an online classroom was found to not be statistically significant. These findings are contradictory to contemporary research concerning growth mindset in classroom instruction (Dweck, 2008). These findings do align with current research that acknowledges online learning can have reduced academic outcomes for students (Daymont et al., 2011).

A possible explanation for the findings of the linear mixed effects model used in the initial analysis could be the nature of how the treatment was implemented. Subjects were exposed to treatment from the beginning of the course, but the implementation of growth mindset and belongingness language may not have had time to truly take effect by the first or even second exam. This would then reduce any measurable change treatment could have had on the third and fourth exam.

Test cramming is another possible explanation for the non-significant results of the initial analysis. Research has shown that cramming can be an effective strategy to perform well on a test (Sumaya & Darling, 2018). Students who cram may perform well on tests, but they do not retain information as well as students who traditionally prepare for tests (McIntyre & Munson, 2008). Research has shown that students in online classes tend to procrastinate more, and procrastination has been shown to lead to cramming (Sun & Kim, 2022). If students in the

control course are cramming for tests, their potential for short term academic success could make this specific type of analysis not effective in measuring the differences between groups.

Exposure to the treatment has the potential to improve outcomes on the final for students. Students would have been exposed to the treatment for the longest amount of time possible, the entirety of the course. The final exam is cumulative. If students have been doing the day to day work and really learning the content in the course, the final would be one of the best measures to capture this. The importance of the final exam to students' overall grade makes it an ideal test to cram for (Hartwig & Dunlosky, 2012).

Controlling for the variables exam and final in the additional analysis could have reduced the potential effect cramming would have on a student's academic achievements.These findings may support one of the major benefits of growth mindset and belongingness messaging. Students are encouraged to view intelligence as something they can improve with effort. Once students possess this belief, it has been shown to increase student efficacy (Bostwick et al., .2020). The additional analysis supports this claim. In order for students in the treatment group to complete the courses with a higher grade than students in the control group, when they under performed the control group on almost all exams, they must have a higher average grade on homework assignments. Students in the treatment group performed better on the day to day homework assigned in the course. Even though the mean exam scores for all four exams in the control group were higher than the mean exam scores for the treatment group, the mean for final grades in the treatment group was higher than final grades in the control group.

If students in the control group were cramming for tests, they would likely only be able to use it effectively on examinations and the final exam. Cramming would be difficult to employ on regular day to day assignments. Homework assignments were graded as an all-or-nothing

assignment. Students either completed assignments for 100% or did not do them and received a 0. The frequency of the day to day assignments in the courses would essentially turn cramming into regular studying.

Poor study habits such as cramming are directly correlated to overall college academic success (Gelle et al., 2018). When students do not successfully manage their time, a critical skill to being successful in online learning, they are more likely to choose to cram (Grant & Thornton 2007). 'Showing up" regularly to complete the routine homework assignments is a step toward successful time management in an online course.

Limitations

The present study used secondary data for all analyses, which were limited to only the available variables and measures collected during original data collection. This could potentially reduce validity and appropriateness of the chosen analysis. Not designing the study from the ground up did not allow for particular measures to be put into place to specifically assess the desired aspects of the course. An example of a measure that could have been used would have been the frequency resources were being viewed within the course's learning management system.. If a page's views spiked right before an exam, this would be strong evidence to support that students were engaging in cramming leading up to examinations.

Length of time students were exposed to the treatment is another limitation of the present study. If students could have also answered brief surveys to collect data on their mood and outlook on their potential success in the course, this could have further assessed efficacy of the treatment. This would allow for a very direct way to measure if the growth mindset was not only being cultivated by exposure to the treatment group, but also how long an individual needs to be exposed to treatment before developing a growth mindset.

Implications

The present study was a preliminary investigation into not only best teaching practices for online learning, but effective ways to measure those practices. While the initial analysis failed to find a statistically significant impact for the treatment group, the additional analysis did. These findings provide some support for improved student academic outcomes when growth mindset and belongingness messaging are used as part of classroom instruction. A significant portion of research concerning best pedagogical practices focuses on traditional classroom settings. The novelty these findings contribute is that those benefits potentially carry over from traditional classroom settings to virtual settings. Specifically, this type of intervention is possibly encouraging students to engage within online classrooms more regularly in the day to day assignments, and not just focusing on "big" tests at the end of units. On average, the control group (M=81.13, SD=18.76) had lower homework grades than the treatment group (M=83.99, SD=17.03). A welch two sample *t*-test was used to compare the homework averages of the two groups and found this difference to be approaching significance, $t(552) = -1.88$, $p=0.06$). Refer to Table 5

The intervention used in the treatment group showed improvement in students' final grade by approximately 2 points, while also maintaining the positive aspects of learning online. Existing research that has found ways to improve academic outcomes in online classes often does so at the cost of the benefits of learning online. Synchronous meetings or additional equipment such as web cameras make online learning less appealing to certain individuals because it restricts scheduling and increases cost. Flexible scheduling and affordability are two of the major benefits learning online provides for nontraditional students and students from a

lower socio-economic status, two specific groups who benefit greatly from the increased equality online classes offer (Hiltz & Turoff, 2005).

Regression models (linear mixed effects regression and hierarchical regression) were used to measure the effectiveness of this specific classroom intervention. Pre-test post-test analyses are often what are used to measure effectiveness of educational interventions (Little et al., 2020). Unfortunately, this type of analysis does not always capture the entire scope of an intervention. If pre-test post test does find an intervention to be effective, it does not give direction to where or how the intervention is specifically affecting learning. Results of the regression model not only provided insight into the effectiveness of the intervention used (showing students' final grades improved by 2 points in the treatment group), but also provide insight into how the intervention may be improving academic outcomes for students in the course; students were completing their homework more regularly then students in the control group. The present study demonstrated the effectiveness of measuring classroom interventions using newer statistical models that measure students over the entirety of a course and not just once at the end.

Future Research

Future research can design and implement measures throughout the duration of courses to create more variables that allow for greater understanding of how growth mindset and belongingness messaging specifically impact learning in an online classroom. Examples of these measures could be having students self reporting beliefs in ability at different points during the course. Research could also examine the vocabulary students use during the course to respond to questions. For example, perhaps phrases such as “I need more practice” become more commonplace or students replace phrases such as “I can’t do this.” These assessments, combined

with dynamic measures for student success like mixed effects statistical models, would allow for greater understanding of *how* this type of intervention affects student outcomes. The results of this study show the potential for creating effective teaching interventions in online classrooms that do not sacrifice the unique benefits of learning online.

Conclusion

The present study examined if applying the pedagogical practice of growth mindset and belongingness messaging to online courses can help improve academic achievement of students. The additional analysis conducted found the treatment to have a statistically significant impact on student's final grades. The present study further examined if including growth mindset and belongingness messaging in course instruction has a measurable effect in reducing the total number of students who receive a grade lower than 70 in an online classroom. The findings did not support this claim. While the present research was unable to identify exactly how the intervention used in this study improved student outcomes, it did support the concept of improving online learning without losing the benefits of learning asynchronously. Future researchers will be able to use this initial analysis to refine and improve what the best pedagogical practices for online classrooms are.

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Table 1

Descriptive statistics of exams, final exams, and final grade.

Column Label	N	M	SD
Control Exam Average [1]	281	69.87	13.7
Control Final Exam	281	67.57	18.68
Control Final Grade	281	79.31	14.2
Control All Exams [2]	281	64.55	20.33
Control Exam 1	281	60.85	15.57
Control Exam 2	281	64.09	18.63
Control Exam 3	281	70.53	18.12
Control Exam 4	281	62.74	26.22
Treatment Exam Average [1]	271	69.32	13.34
Treatment Final Exam	271	66.23	16.62
Treatment Final Grade	271	80.81	12.69
Treatment All Exams [2]	271	63.52	21.76
Treatment Exam 1	271	59.14	21.18
Treatment Exam 2	271	63.86	18.31
Treatment Exam 3	271	67.05	19.66
Treatment Exam 4	271	64.04	26.41

Note. [1] Exam Average drops the lowest exam grade per student and is the mean used to calculate final grade. [2] The true mean of all exams students attempted

Table 2

Mixed Effects Regression Analysis

Random Effects

Variable		Variance
ID	(Y Intercept)	147.5

Fixed Effects

	b	SE	*t*	p	CI 2.5% - 97.5%
Intercept	60.81	1.2	50.51	< 2e-16	58.46 - 63.17
Occasion	1.5	0.33	4.59	4.84e-06	0.86 - 2.13
Treatment	-1.03	1.27	-0.82	0.415	-3.51 - 1.45

Table 3

Hierarchical Regression Analysis of Final Grades.

Model	Variable	*b*	SE	*p*	CI 2.5% - 95%	Δ *R*
Block 1						0.65
1	Intercept	26	1.78	<2e-16	22.49 - 29.49	
	Exams	0.52	0.04	<2e-16	0.45 - 0.59	
	Final	0.27	0.03	<2e-16	0.22 - 0.32	
Block 2						0.01
2	Intercept	24.82	1.81	<2e-16	21.27 - 28.36	
	Exams	0.52	0.04	<2e-16	0.45 - 0.59	
	Final	0.27	0.03	<2e-16	0.22 - 0.32	
	Treatment	2.15	0.67	0.002	0.82 - 3.47	

Table 4

Chi Square Test of Students who Receive a Grade <70

	Grade > 70		Grade < 70	
	N	%	N	%
Control	238	84.7	43	15.3
Treatment	234	86.35	37	13.65

Table 5

Welch Two Sample t-Test Comparing Homework Averages

	N	Mean	SD	*t*	p
Control	281	81.13	18.76	-1.88	0.06
Treatment	271	83.99	17.03		