

Comparing the virtual classroom environment and traditional classroom environment in a ninth to twelfth grade supply chain management and logistics class

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Dedication:

I want to thank Dr. Dula for all his help in this study during this trying time. His help and support has been a blessing. The novel coronavirus-19 has affected us all. Also, the consistent support from my family, friends, students, colleagues, and amazing girlfriend have kept me motivated and calm even when everything felt overwhelming.

Table of Contents:

Abstract:	5
Keywords	5
Chapter 1:	6
Introduction	6
Problem Statement	6
Purpose of the Study	7
Significance of the Study	7
Definition of Terms	8
Overview of the Study	8
Chapter 2:	10
Positive Online Engagement	10
Covid-19 Adjustment	11
In Person Classroom Engagement	12
Conclusion	13
Chapter 3:	14
Methodology and Procedures	14
Population	14
Participants	14
Data Collection Instrument	15
Procedures	15
Research Questions	15

Chapter 4:	18
Data Collection	18
Study Results:	19
Traditional School Environment	19
Student Progression	20
Chapter 5:	21
Summary of the Findings	21
Limitations of the Study	22
Recommendations for Further Study	22
Implications	22
Conclusions	23
References	24

Abstract:

The purpose of this study was to examine the effects of how students understood academic material in a virtual classroom compared to a traditional classroom. The sample consisted of the following students: sixteen male seniors, five female seniors, five male juniors, three male sophomores, one female sophomore, five male freshman, and two female freshman of various racial, religious, socio-economic backgrounds. Data was collected through a qualitative test to account how students compared their experiences of the virtual classroom setting versus a traditional classroom environment. The study took place during a global pandemic caused by the Novel Coronavirus which has had a massive impact on the way teachers had to teach. Comparing the experience of the students with ways that the virus made virtual classrooms more necessary than before on nine to twelfth graders.

Keywords: Covid-19, virtual classroom environment, traditional classroom environment, engagement, Zoom.

Chapter 1

Introduction:

The Covid-19 pandemic has affected life drastically in every function of society. Education has experienced different changes to how students learn (Rebeca Soler-Costa... (2021) Barnes, C. (2020) Francis, G. (2016)). The learning environment has changed to a virtual setting that is different than what the students have been accustomed to. The traditional classroom environment is one that helps students of all IEP/504 backgrounds as the teacher can accommodate the learning needs. Also, students have felt disenchanted towards the experience of listening to a teacher talk on Zoom and/or Google Meets (School, E., & Planchon, E. (2020)). The research identifies the comparison of the virtual classroom compared to the traditional classroom.

Problem Statement:

The Novel Coronavirus Virus has affected every facet of life but when it comes to education the issue is that virtual school has now become normality. Before it would be used for select programs and needs but now all public secondary education is using a hybrid or full virtual program. The issue is that the majority of students lose many elements of the “traditional experience. Students in the class are able to have full engagement but with a virtual classroom setting, this engagement is often lost. Including engagement in virtual courses and classrooms is the key to students gaining a better, closer classroom experience that will increase their learning and understanding.

Purpose of the study:

The purpose of this study is to examine the elements of engagement in the virtual classroom. Often students lose engagement due to the lack of activity or a failure of understanding how a virtual classroom should be set up (BAO, A. 2020) (Bailey, J., et al., 2020).

Significance of the study:

With this data, teachers can successfully understand the strategies that are possible to replicate classroom engagement and environments. This study showcases many different techniques that will create a unique experience. The virtual classroom is capable of providing the same level of engagement and beyond. Many of the techniques are able to involve the use of interdisciplinary instruction, virtual environments, and quick travel to unique destinations (Calabrese, M., & Nasr, A. (2020). Hampels, R., & Pleines, C. (2013)). Previous studies indicate that the majority of virtual experiences that are positive are due to a large portion of the engagement. The teacher has developed an understanding of the nuisance of virtual classroom environments. A majority of the successful programs are incorporating experiences such as SecondLife and virtual realities that allow students to experience places and things that would otherwise be impossible in the classroom. Also, the purpose is that the virtual classroom can be a successful environment and experience that will give the students a proper learning experience and education (Kim, P et al., 2013).

Participants in this study will be twelfth-grade students with a few students of the nine, ten, and eleventh grades in the Supply Chain Management and Logistics semester course. These students, around the ages of 14 and 15. The student population in this study comes from a suburban area within the Tri-Cities region of northeast Tennessee. The independent city-school

system lies in Sullivan County and houses all of the Kingsport City schools. The next chapter looks at the Covid-19 adjustment, positive online engagement, and in-person classroom engagement.

Definition of Terms:

Covid-19: Short for the Novel Coronavirus-19 pandemic. The main reason education was shifting from traditional to virtual learning.

Virtual Classroom Environment: Due to the outbreak of the covid-19 pandemic classes have begun to be taught using virtual conferences on platforms such as Zoom or Google Meets which allow students to attend from anywhere.

Traditional Classroom Environment: Students are all taught in one physical location with all class members by the teacher using pedagogies.

Engagement: refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education.

Overview of the study:

The purpose of this study is to examine the elements of engagement in the virtual classroom. Often students lose engagement due to the lack of activity or a failure of understanding how a virtual classroom should be set up (BAO, A. et al., 2020)(Bailey, et al., 2020). This thesis comprises five chapters. Chapter one contains the introduction, problem statement,

purpose of the study, significance of the study, definitions, and an overview of the study. Chapter two consists of a critical review of the literature. Chapter three consists of research methods used in the study. Chapter four consists of findings of the study. Chapter five contains a summary of the findings, limitations, recommendations, and conclusion.

Chapter 2

Positive Online Engagement:

Students have a better chance of earning a half-letter grade lower in an online course compared to students in traditional courses. (Brau et al., 2017) To create a more balanced and better online course to have all different learning styles the online courses are in need of becoming more engaging.

Good online classroom interaction using screencasts was studied from 2011 to 2016 by the Rochester Institute of Technology. Screencasts were able to be uploaded onto a teacher's website that can then be used by the students. The screencasts allow the students to control the pace at which they work which would not be possible in the traditional classroom. Students are able to support their own academic needs and learning which helps them improve upon their grades that would not be possible in a traditional classroom due to time constraints. (BAO et al.,2020).

Teachers are also using more creative outlets to help drive learning. Using second life, a virtual online-based game that allows people to have a literal second life can be used to create a greater active and engaging learning environment. Second Life creates learning activities that focus on communication skills the students are in need of. Students are able to move around in the game world and be graded upon their experience as an individual or as a group. The students are also learning and seeing new realities that would not be possible without it. (Codier, E. (2016).

Also, the use of Ipads, Virtual-Reality headsets, and other electronic devices are able to change the classroom experience. The schools would be able to loan out these devices to students participating in an online course. Students would be able to access and see new places, people,

things, and experiences. The class does not simply have to be one that is distant from the material but can give real-life examples that will allow students to engage and understand why it is important to learn what is being taught. (Ioannou, M., & Ioannou, A. (2020)). This can be done using online group work that allows students to be able to be held accountable by their peers and teacher. In addition, too, various discussions can be posted in online forums to foster communication between students on the topic and be reviewed by the teacher. (Jianzhong Xu et al., 2015).

Covid-19 adjustment:

Novel Coronavirus-19 has affected all lives in every way. The school has become virtual and a new adjustment for high school. Technology has enhanced secondary education for years as universities were well adjusted to teaching online. High Schools are having to adapt to virtual learning and for the majority of students, it has not been pleasing. Students are having difficulty engaging in listening to teachers through Zoom or Google Meets simply due to the lack of a connection between teacher and students.

Students have also had to adjust to more distractions while working from home. It is easier for a student to play Xbox than to sit and do homework. “According to the U.S. Department of Education, distance education refers to “a formal education process in which the student and instructor are not in the same place.”³ This definition includes educational experiences that involve the transmission of information between students and faculty and the assessment of student learning, which may occur in online and offline pedagogical contexts.” (Lamont A. Flowers et al., 2014).

Distance education adjustment has made discussions through text only, structured, and limited compared to verbal discussions with a common normal interaction. Also, students went from a certain performance caliber to a caliber that just submitting an assignment or showing up on a Zoom call was good enough. This sort of engagement was being rewarded by the school system. Stress lessened and when students experienced the more traditional classroom environment students had to catch up. (Ioannou et al., 2012).

In-person classroom engagement:

In-person interaction has always been the main staple of normal classroom interaction. Often students are motivated if they prefer the teacher or the subject. During the Covid-19 pandemic, even students' preferred subject matter have seen their engagement slipping. What does the classroom interaction do well?

First, the classroom climate or environment provides the students with a feeling of connectedness that the virtual does not offer. “Teachers, as well as schools, make a difference is a finding that has received increasing support from educational research over the past decades. Studies using large databases and multilevel modeling techniques have consistently found that teacher effectiveness influences students' achievement, and is one of the main indulgences on student progress over time.” Muijs et al., 2015). The better the teacher is in engaging students the better their success will be.

Second, one study said, “Although a variety of asynchronous interaction means (such as various discussion forums, message center) was provided to the students, the students were found not to make active voluntary use of them.” (LAI, C et al., 2011). Students are not engaged in the virtual discussion boards compared to when students are involved in the classroom. The

important aspect of virtual discussions and class setting participation. Students claimed that they would participate less in classes during the virtual setting because it felt distanced from them.

Conclusions:

Positive online engagement is possible and significant for students to gain the same attributes that would be achieved during a traditional classroom environment. Different teaching tools and becoming creative with the ways that virtual classrooms are taught can bridge the gap students experience during virtual classes. It is possible for students to have the same experiences as that is possible in

Chapter 3

Methodology and Procedures

The purpose of this study was to examine the effects of the virtual classroom and traditional classroom environments. Students have been asked questions through a Google form to determine their overall experience using virtual platforms such as Zoom and Google Meets compared to being back in a face-to-face classroom or traditional environment. This was used to develop and determine an understanding of how students' learning experience was in each setting. This chapter explains the population, sampling procedures, data collection procedures, and research questions.

Population

This research took place in an urban high school in Northeast Tennessee. The school had students enrolled in grades 9-12. The ethnic demographic breakdown of the school was 80% white, 7.1% African-American, and 5.8% Hispanic. The remaining students identified as "other" in race. 40.6% of the students were recipients of free or reduced lunch. The student-to-teacher ratio is 15.7.

Participants

The participants of this study consisted of two multi-grade level students in two supply chain management and logistics classes. Of the total of 40 students, 38 students participated in the study after permission was granted by parents and guardians. Eight students were female and 32 were male. Of the participants 32 were white, 5 were African American, 2 were Hispanic, and 1 was Asian American. The ability level of the students varied. Two students had an IEP and one student had a 504. The students were between the ages of fourteen and eighteen. The participants were not selected randomly as the researcher had already been assigned to this class.

Data Collection Instruments

Data were collected from students' experiences during the virtual and traditional classroom settings. The researcher gave students an unlimited amount of time to answer the research questions in the research questions subheading later in the chapter. The time overlap consisted of two eighteen weeks divided into four quarters. Students have provided their feedback upon not just how this class was virtually compared to online but their overall experience with all their classes during this time.

Procedures

Permission was granted from the principal of the school to conduct this study. The researcher has also been granted permission from Milligan University. Permission slips were also sent home in order for the students to be able to participate in the study. After receiving appropriate permission, the study was conducted using two different sets of vocabulary words at complementary difficulty levels. These classes were block-scheduled, which means that each class is ninety minutes long and after eighteen weeks, the class is concluded. The participants' responses are done anonymously and allow students to give truthful responses.

Research Questions

Research Question 1: How was your experience using the Zoom platform compared to traditional classrooms?

Hypothesis 1: Students will most likely have formed a negative experience towards the Zoom citing ideas such as boring and/or lack of engagement and depth of content.

Null Hypothesis 1: Students experienced negative outlooks and felt the classroom engagement and motivation for the classes were difficult.

Research Question 2: How has the engagement of Zoom compared to the traditional classroom?

Hypothesis 2: Students will have either enjoyed it because it allowed them to do other activities or disliked the fact that they are not able to be in class.

Null Hypothesis 2: Students overall felt that Zoom and Google Meets did not allow them to engage with the classes which caused overall grades to drop.

Research Question 3: Has internal and external motivation become easier or harder when virtual compared to traditional?

Hypothesis 3: The majority of students will cite a lack of motivation as they feel no real connection to their teacher.

Null Hypothesis 3: Students overall felt motivation was better in the classroom because of the in-school setting and ability to interact with their teachers.

Research Question 4: Have you felt you are prepared for the next grade level?

Hypothesis 4: The majority of students will have claims to a lack of preparedness

Null Hypothesis 4: Students overall did not feel prepared for the next grade level or college as they felt a lot of important time was missed and/or the virtual classroom did not consist of satisfying learning.

Research Question 5: What additional positive or negative thoughts do you have on virtual vs. traditional schooling.

Hypothesis 5: The students will have identified negative emotions due to lack of connections, missing friends, and not having the experience they were accustomed to.

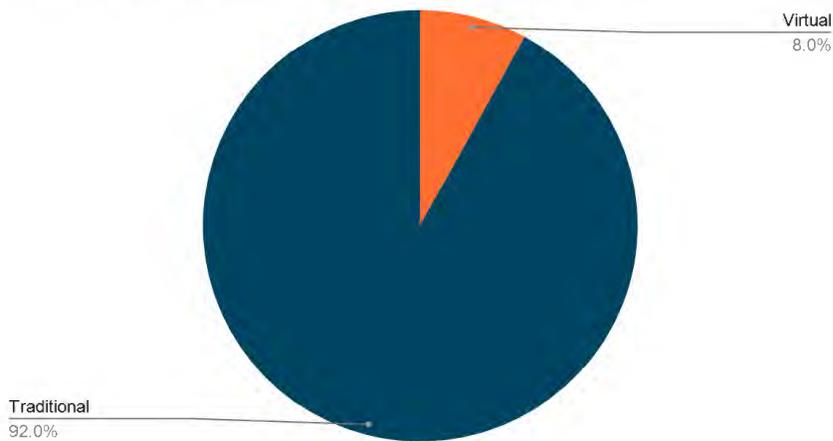
Null Hypothesis 5: Students overall admitted to a tough adaption to virtual school. The students did however enjoy increased time with family and other non-school-related activities and hobbies they could not do otherwise.

Chapter 4

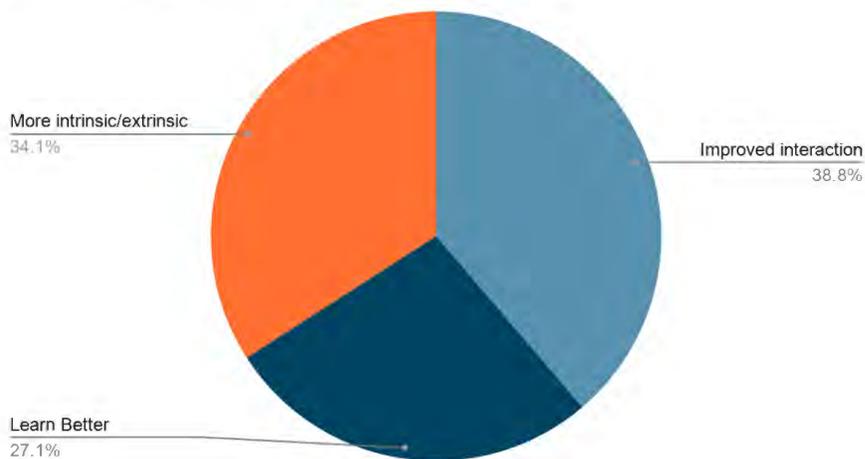
Data Collection:

The purpose of this study is to examine the elements of engagement in the virtual classroom. The data was collected one month after students had given parents consent forms. The response rate was relatively low due to interruptions in the calendar and the novel coronavirus, which consisted of 34 participants. Students' responses remained anonymous and their age, race, and gender were not asked for the survey.

Students who preferred virtual to traditional school



Reasons for preferring traditional schooling



Study Results:

Traditional School Environment:

The traditional school environment has many elements involved, such as motivation (intrinsic and extrinsic), Improved interpersonal interaction, and better learning. The majority of students felt their intrinsic and extrinsic motivation improved during the traditional school environment. Students felt they learned more due to having an increased connection with the teacher face-to-face than through a Zoom or a Google Meet. Students felt that they had less motivation during the virtual learning periods because they found it difficult to experience how the teacher cared about their learning while more distractions and fun opportunities were available. Students felt that the virtual classroom environment once the Zoom or Google Meet was done they also were not as accountable for their work. Also, the students felt that their grades were not going to be counted or cared about due to the global pandemic taking place.

Improved interpersonal interaction between students and teachers but also students to students helped the traditional classroom environment. Student-to-student interactions helped garner a spirit of camaraderie and helped build external motivation. Students surrounded by their friends wanted to have better grades and keep up with their class peers. The majority of students surveyed expressed that working with their classmates was more engaging than when they were doing work by themselves. Also, many students said they were able to focus more by having student-to-student interactions as a break from the monotony of schoolwork. The students could socialize before and after school that allowed a break from constant schoolwork.

The teacher-to-student interactions were vastly improved in the traditional classroom environment. In the virtual environment, students could not feel and understand how much the

teacher cared regardless of the emails and numerous check-ins. Students were more invigorated once they understood the teacher and felt the presence of the teacher that would help them with their work. Students majority felt once they were back in the traditional environment it allowed them to ask more questions and had more time to get help from the teacher. Students were relieved also they had more time to complete assignments and gain deeper insight.

Students felt they learned better due to the following reasons but also because school is a better environment to learn. The students who said they preferred virtual or hybrid classes due to their ability to play more video games or other non-school-related activities. The students who prefer a traditional classroom environment felt they gained more knowledge as class time is longer than a Zoom or Google meet. If the assignment was confusing students can use the teacher and their peers to gather more information as many students acknowledged they were prone to cheating or giving up when classes were virtual. The traditional environment is able to allow students to gain further knowledge.

Student Progression:

Students were honest about their experiences in online classes, environment, and schooling. Students were asked if they feel prepared and ready for the next grade level or higher education. The majority of students felt they did not feel prepared for the next stage. To what level and extent of this unreadiness will not show until we get test scores and GPAs of the students affected by how the virtual environment has hurt students. Students have said their lack of preparedness was due to the virtual environment. At first glance, the negativity was highly attributed to this type of learning but the real problem was the lack of accountability on the students until the Spring 2021 semester. Not from teachers but from the overall school systems as

a response to the newness of virtual learning in the secondary system. Without any repercussions or accountability, students are less inclined to work.

Chapter 5

Summary of the Findings

This chapter is a summary of the findings that came from the research, a conclusion, recommendations for further research, and implications that came from this study. This study's purpose was to examine the students perception of the traditional classroom environment versus the virtual classroom environment. A few questions from the study are presented below.

The first question, "How was your experience using the Zoom platform compared to traditional classrooms?" The majority of students described their experience as being poor, hard to concentrate, and uninteractive compared to what they knew. Compared to the study of the interactive virtual classroom by Hampels, R., & Pleines, C. (2013). Online activities can be used as an assessment tool and a teacher can implement normalcy in the classroom. When compared to the students virtual classroom there was a lack of normalcy and engagement. Also, teachers who were used to pedagogies in a traditional setting were having to adjust to the virtual setting.

The next question, "Have you felt you are prepared for next grade level, college, or career as a result of having more virtual classes?" All the students registered that they did not feel prepared for what was next. Many students believed they were unprepared because of the pandemic and the virtual learning environment. This study is not meant to blame anyone but simply understand how the traditional classrooms were viewed upon by the selective student survey. The authors, Sue Gregory, Sheila Scutter, Lisa Jacka, Marcus McDonald, Helen Farley, & Chris Newman in a 2015 study, discuss what platforms and funds are used to build towards an ever increased online teaching world. This article also discusses how often the virtual world of

teaching needs less funds, or so it seems, because unlike the traditional experience it has no physical means. It is realized that virtuality is going to become more and more relied on over the years but little funding is invested. This needs a small and successful team that can be accessible for students with troubles and that this will become an ever more powerful tool for educators.

Limitations of the Study

The study is limited to a small amount of students able to discuss their experiences with a virtual classroom environment. The study is also very limited to one high school in eastern Tennessee with a small sample size. The study is also limited to students in an elective classroom setting.

Recommendations for further study

1. This study should be replicated with a larger research group. This would increase student experience and understanding of the virtual environment. The study could be done with multiple classes, an entire school district, or nationwide.
2. This study can consist of controlled and variable groups of students. It can consist over the course of a year to multiple years demonstrating how students learned in traditional and virtual environments.
3. The study needs to consist of various regional, religious, racial, and other demographics in order to relay if the student experience is similar or different across the country.

Implications:

The future is never certain and we can never be certain. The implications over time how Covid-19 pushed education into a virtual environment with educators who were not experienced in virtual education. The following is only speculation but if the small sample size of students feeling that their education was not beneficial enough for their next steps is alarming. Students behind the 8 ball, for lack of a better analogy will need to be reminded of previous information that was supposed to be in the previous grade. The goal is over the course of time students will be caught up but only consistent results through testing will understand where students are or are not.

Conclusions

The purpose of this study was to examine how the virtual environment of a classroom compared to the traditional environment of a classroom. Results of the study indicated students felt they did not learn effectively whether it was intrinsic or extrinsic motivation, lack of engagement, or living in a global pandemic. The reality of this study is that students felt unprepared for the next grade, career, or college depending on the age and grade level of the student.

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