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Virtual Distance Learning: How Teachers and Parents/Guardians Can Help Increase Elementary School Students' Engagement

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VIRTUAL DISTANCE LEARNING: HOW TEACHERS AND PARENTS/GUARDIANS CAN

HELP INCREASE ELEMENTARY SCHOOL STUDENTS' ENGAGEMENT

by

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To my mom in heaven, everything that I am and everything that I will be, I owe it all to you. Not a day goes by without me wishing you were still here. To my dad, thank you for your never ending love and faith in me. To my grandparents, thank you for always supporting me. To my sisters, Jovita and Jennifer Rita, I see mami in both of you, thank you for keeping me going. To my fiancé, Matthew Jones, thank you for always holding my hands through thick and thin and for being my personal cheerleader in life. To my forever puppy pug, Gimli Mcnugget, thank you for always staying on my lap when I was working on this project, your snores helped me stay awake to finish it. To my in-laws, Thomas Jones and Kimberlie Miller, thank you for your words of encouragement and most importantly, thank you for treating me like one of your own.

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ABSTRACT

Although distance learning has existed since the 1700s, it was not until the COVID-19 pandemic that the general public was introduced to it. UNESCO (2020) estimated that there are 290.5 million elementary and secondary students in 184 countries whose education was derailed as a result of school closures caused by the pandemic. Due to the suddenness of the situation, teachers along with parents/guardians had to find tools and resources in order to make sure that students could get a high-quality education during virtual distance learning. The key to achieving that is student engagement. Now that the general public has been exposed to distance learning, it might stay within our school system for good. In response to this situation, the question that drove this project was, *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* A study has shown that only 60% of students were active in distance learning, and of those, more than half were less engaged compared to before the pandemic (Barnum, 2020). This can result in learning loss which will vary depending on students' access to support, tools, and opportunities to learn as well as individual differences during the school shutdown (Hill, 2020). Access to remote learning, the quality of remote instruction, home support and the degree of engagement are some of the factors that help determine the quality of learning for students (Dorn, 2020). When choosing the form of my project, I chose a website because it would be the most relevant and easy to access with today's technology. The website contains relevant information based on my research that will allow teachers and parents/guardians of elementary students to gain knowledge and guidance that they might need to help increase students' engagement during virtual distance learning. The goal of this project is to provide tools and resources for teachers and parents/guardians to help their children during this trying time. As my project contains information from both teachers' and parents/guardians' point of views, I'm hoping it can help them understand where the other is coming from and as a result, work together in making sure that students are highly engaged in their lessons. I intend this work will empower and motivate my target audiences by gaining knowledge and resources needed in helping their children during virtual distance learning.

CHAPTER ONE

Introduction

"I can do things you cannot, you can do things I cannot; together we can do great things" --

Mother Teresa

Introduction

If someone asked my young self what I wanted to be when I grow up, I would have said a veterinarian or an astronaut. If someone told my young self that I would become a teacher, I would have laughed and said, "not even in my wildest dreams." However, as I grew up, I started to realize that teaching is my passion. It all started when my baby brother, Owen, was born when I was 13 -years -old. I loved spending time with him and teaching him new skills, from how to drink from a straw to how to write. Now, at 12 -years -old, he is very technologically advanced and able to operate a variety of gadgets. He is able to utilize technology in learning. However, unlike children these days who grew up with technology, many adults today are not as technologically savvy. This was never really a problem in the education world because parents and guardians did not have to help their young children in learning virtually until the COVID-19 pandemic that caused schools to shift from face-to-face to online distance learning.

When COVID-19 started spreading in the beginning of 2020, schools closed at different dates in different states. Each state has its own statute and/or regulation on how school districts should deal with a disease outbreak that caused guidelines to vary from state to state (Nuñez et al., 2020) Even then, students across the country and even the world went for several months without physically going to school because schools shifted to distance learning which affected 50.8 million public school students in the United States, especially those who are from

low-income families (Osborne et al., 2020). However, most teachers were not trained in teaching virtually or remotely. As a result, students were not able to receive the same high quality education that they would normally receive in "normal" school days. They suddenly lost contact with their peers and teachers. For children, such an abrupt routine change could be very confusing and difficult to process.

Distance learning is not a new thing, in fact, it has existed since the 1700s. Distance learning is a learning process that uses non-traditional approach and delivery methods compared to a traditional in person education (Saykılı, 2018, p. 2) as it is generally conducted outside of a conventional classroom. As a matter of fact, each person involved in the lesson can conduct learning from different locations. Distance learning has evolved throughout the years based on the advancement of technologies and pedagogies of the time. In the 19th century, distance learning was utilized to create equal access to education for citizens who did not have the luxury to learn from a traditional on-campus learning (Saykılı, 2018, p. 2). Although distance learning has been around for a few centuries, the general public was not familiar with the term until the Covid-19 pandemic hit the world. Students all over the world had to transition from traditional in-person learning to distance learning in the beginning of 2020. Fortunately, technology has advanced remarkably from when distance learning was first introduced in the 1700s. Instead of just using paper and pencil like in the past, distance learning can now be conducted virtually using the internet and gadgets such as tablets and computers. As a result of the technological progress, there have not been many relevant resources out there that can provide the answer to this question: *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* The goal of my capstone project is to

provide resources to answer that question. Teachers and parents/guardians have to work together to make sure students still get a high-quality education despite the situation. There are things that teachers can do that parents cannot, and there are things that parents/guardians can do that teachers cannot. Together, teachers and parents/guardians can create a productive learning environment for students.

If someone told me two years ago that the education world would be turned upside down in the year 2020 and that I would experience my student teaching in an online distance learning manner, I would laugh and say, "I hope not." However, life is full of surprises, and it is up to us to make the most out of it. Although distance learning can be challenging because most teachers are not used to teaching remotely and parents/guardians are not used to the curriculum currently used by schools that is different from the one they used to learn when they were in school, there are a lot of different ways to make online distance learning manageable for them and engaging for students. In this chapter, I will write about my personal learning background, why I chose this topic for my project, observations from my teaching experience, the goal and significance of my capstone project, and last but not least, a summary and preview of the remaining chapters on this study.

My Learning Background

I was born and raised in Jakarta, Indonesia. I went to a Christian private school from kindergarten until high school. The school that I went to was very strict. I grew up in a time where smart phones were already invented. In middle school, my peers and I could not bring our phones to school. If we got caught bringing our phones to school, the teachers would confiscate the phones. The first time we got caught, they would confiscate it for a month. The second time

would be for two months. The third time would be until the semester ended. They would often do a "surprise raid" where they would go through our bags and belongings to find our phones. Not only that, they would also do a body search where they would pat our bodies, even our private areas to make sure we were not hiding our phones. I remember that my friends and I would get creative in hiding our phones.

In high school, the rules were a bit more lenient as the teachers realized that times were changing and we needed our phones to contact our parents. As a result, we were allowed to bring our phones. However, our phones had to remain off at all times until the school day was over. We could not even turn our phones on during lunch. If we got caught, the teachers would confiscate our phones just like in middle school. They still did a "surprise raid" but they no longer did body searches. Because of this, technology and education were two different things in my mind. When I came to Seattle, Washington, in 2013 after I graduated high school, I was surprised to find that most classes allowed students to bring gadgets to class. Not only that, some professors even encouraged students to take notes on our laptops or tablets.

I have gained a lot of knowledge on teaching when taking classes in hopes of becoming a teacher. I had to re-learn how to solve simple math problems in one of the classes I had to take for my teaching license, so I can only imagine how most parents/guardians would get confused in trying to help assist their children during distance learning. That is why I wanted to create a project that can help make this easier for them. Technology has definitely made learning easier for me. For instance, I could do summer online classes at Hamline University all the way from my home country. Things that would not be possible before are possible today because of technology.

Observation From My Teaching Experience

In all honesty, I do not have much teaching experience in the United States. The experiences that I have are from clinical and student teaching during the two years I have been studying at Hamline University. However, I experienced student teaching in the spring of the year 2020, when the COVID-19 pandemic started to reach the United States. I got to experience teaching during virtual distance learning, where I worked with my cooperating teacher in a first-grade classroom. The shift from face-to-face to virtual distance learning created an opportunity for me to gain new knowledge and experience that I would not have been able to learn in a classroom.

The district in which I was student teaching already provided an iPad for every elementary student even before the pandemic. The first-grade classroom that I was assigned to, was already utilizing several different Learning Management Systems (LMS) in daily lessons. The main LMS that was used was Seesaw. I was two weeks into my student teaching when the school closed. I remember that my cooperating teacher and I had to prepare many different tools and resources for students to bring home. By the end of the last day of face-to-face instruction, the first graders had their bags fully packed to the point that we had to forcefully zip them. They also had an additional paper bag to carry the tools home.

I had the opportunity to continue student teaching until the end of the school year. I was even able to create science lessons that were used by all three of the first-grade classrooms in the school. We met virtually on Google Meets twice a week for about half an hour each, where we would cover a small lesson and play a game like treasure hunt. We did that so that students could interact with their peers and teachers. During that time, I also learned that my students were less

likely to do the online activity if it involved more writing. They were more likely to be engaged in activities that did not require much effort from them. It was chaotic and confusing in the beginning as everyone was trying to adjust to the "new normal." The school also had two drive-thru parades where teachers lined up six-feet apart while holding handmade signs and families drove around so the students could see us.

I remember that my cooperating teacher and I were talking after the drive-thru ended when we saw one of the students in our class walking with her nanny. This student had not been doing her activities on Seesaw and although she used to join the Google Meets in the first couple of weeks, we had not seen her in a while. We walked up to them and she was so happy to see us. We told her that we missed her during our Google Meets. She then told us that when she was with mom, her mom slept in and when she was with dad, her dad did not know how to use the technology.

This was when it hit me that parents/guardians play an even more crucial role in students' education during online distance learning. No matter how much teachers prepare for the lessons, students are learning from home, which ultimately means that they will need real time guidance, specifically technological support from adults around them. Student engagement has always been crucial in learning, but it is even more crucial now that it is online. I continued to work with my cooperating teacher in the fall of the year 2020 for an additional four weeks to complete my student teaching requirements. We began the school year with synchronized learning where learning was conducted in real time with teachers and students staying connected on Google Meets throughout the day before moving on to hybrid where half of the class came on Monday and Tuesday while the other half came in on Thursday and Friday.

The Goal and Significance of this Capstone Project

The COVID-19 pandemic caused students to learn from home which resulted in variables that did not play significant roles in their learning before, that now have become crucial. Not every student has the same support and tools; some of them might have to do learning without any support from adults near them or some might not have access to the internet. It is important to make sure that no child gets left behind during virtual distance learning. Teachers and parents/guardians have to help make sure that children still get the same high quality education despite the circumstances. Teachers and parents/guardians can help increase students' engagement with the right tools and resources.

Now that the general public has been exposed to the idea of online distance learning, it will be a part of the education world forever. It will still be around even after the pandemic is over as some families would prefer this method instead of the traditional face-to-face one. With that being said, teachers and parents/guardians are going to have to familiarize themselves with this topic. The goal of this capstone project is to provide tools and resources for teachers and parents/guardians to help increase students' engagement during online distance learning.

Capstone Project

My capstone project is designed to answer the question: *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* This project is in the form of a website. Technology surrounds people's daily lives. People can access websites from their phones nowadays. Search engines are one's friends when one needs information. My website provides tools and resources surrounding students' engagement for teachers and parents/guardians to help facilitate online distance learning for

students. It also serves as a platform where they can exchange ideas and information regarding online distance learning.

My personal experience from student teaching during the pandemic has shown me that students' engagement became very low during online distance learning. Students whose parents/guardians are there to guide them to do the assignments and join the activities are more likely to be engaged with learning. However, it is important to remember that many parents/guardians would want to be there for their children, but they might have to work or attend to different things. As a teacher, it is important to know families' circumstances in order to accommodate accordingly.

My website provides knowledge that can help teachers and parents/guardians regarding this dilemma. The information shown on my website is based on research that is written in chapter two of this paper.

Summary

This chapter explained the reason why I wanted to find the answer to this question: *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* My experiences both in Indonesia and in the United States, as well as the pandemic, have led me to realize the significance of not only teachers, but also parents/guardians roles in students' engagement during online distance learning. I believe that one can do things that the other one cannot and the other way around.

Distance learning is not a new concept; it has been done for centuries. I want to better understand how people made it work. Chapter two discusses in-depth on this topic from the history of distance learning, synchronous versus asynchronous learning as well as how Learning

Management Systems (LMS) can be used as a tool to support both types of learning, to how

students' backgrounds affect students' engagement during online distance learning. Chapter

three provides an overview of the capstone project; the website. Last but not least, chapter four

serves as a reflection of my experience creating this capstone project, as well as the implications

and limitations of the project.

CHAPTER TWO

Review of Literature

Research Question

The question guiding my research is: *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?*

Introduction

Distance learning has been around long before the COVID-19 pandemic. However, it is the pandemic that introduced distance learning to the general public all over the world. It is estimated that there are 290.5 million elementary and secondary children whose education has been disrupted because of the school closures that have happened in 184 countries to contain the spread of COVID-19 (UNESCO, 2020). Now that schools are forced to shift to distance learning, teachers along with parents/guardians have to find ways to make sure that students still get a high-quality education. Student engagement is the key to achieving that.

In surveys created by Educators for Excellence, teachers estimated that only 60% of their students were regularly engaged in distance learning. Teachers also say that more than half of their students are less engaged during distance learning compared to before the pandemic. On top of that, they also say that student engagement continued to decline over the course of the semester (Barnum, 2020). Whether we like it or not, now that society is exposed to it, distance learning might become a part of the education world forever. However, because this is a relatively new topic, the national data regarding this is almost nonexistent.

Most teachers are not trained on how to teach remotely and as a result, have had a hard time in adjusting to distance teaching. The purpose of this project is to provide information on

what factors affect student engagement during online distance learning. By knowing that, teachers then will be able to better understand their students and as a result, become able to create lessons that are engaging and of high quality for the students. With that being said, the question that needs to be asked is, "*How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?*"

In order to find out the answer to that question, one must first know the factors that affect student engagement. In this chapter, I examine four different factors; synchronous versus asynchronous learning as well as how Learning Management Systems (LMS) can be used as a tool to support both learnings, how to increase engagement in each school subject, how student background affects their engagement, and last but not least, how a student-centered approach can increase student engagement. These four factors are crucial in finding out how to create lessons that are engaging for students in this trying time. However, before we dive in more into that, we are also going to explore a little more about the history of distance learning and why it is more important now than ever to better understand this topic.

Introduction to Online Distance Learning

History of Online Distance Learning. "Education has been trending digitally in models like flipped classrooms and blended learning, so the idea of remote teaching is not as strange as it may have been 10 or 20 years ago" (Oak Harbor, n.d.). However, most people were not familiar with the term "distance learning" or "remote learning" until the pandemic happened, even though distance learning has been done long before that. Distance learning is not a new concept or phenomenon. As a matter of fact, it has actually been around since the 1700s (Harting, 2005). The first recorded instance of distance learning was in 1728 and it took place in Boston Gazette,

Boston, USA when a "Caleb Phillips" advertised private correspondence courses in shorthand (Pappas, 2013). Over a century later, Sir Isaac Pitman ran a correspondence course that taught his revolutionary shorthand system in 1840 that is still used even today (Pappas, 2013). The first university to offer distance learning degrees was University of London in 1858, and University of Wisconsin-Madison was the first to use the term "distance learning" in a pamphlet in 1892 (Pappas, 2013). It started from lectures that were sent via phonograph and radio broadcast, and evolved to degrees delivered in the digital age: the evolution of distance learning is staggering (Pappas, 2013).

As time progresses, technology becomes more and more advanced. That advancement of technology is then used to utilize and accommodate distance learning. "If one assumes that space, time, and the development of technology are basic features of our existence, it may be assumed that upbringing, education, and continuing education are influenced by these basic features and also depend upon them" (Asselmeyer, 2004, p.146). New technological inventions and cultural developments influence how distance learning operates. For example, when printing was invented, it facilitated books and newspapers, which then led to the development of libraries, which became one of the most important prerequisites for the advent of independent learners as it facilitated independent reading and learning (Asselmeyer, 2004, p.146). Another example is how the advancement of the quality of ultrashort-wave transmission led to educational radio programs in the 1950s (Asselmeyer, 2004, p.146). Eventually, the internet was invented and "...given this background, it is not surprising that, due to the increasing availability of computer technology and its networking, attempts were quickly made to create electronic learning

possibilities, and a previously unachievable degree of individualization of learning became

possible" (Asselmeyer, 2004, p.146-148).

  How the COVID-19 Pandemic Made Distance Learning Relevant. This is not the first

time that a crisis has impacted the education world. In 2005, New Orleans schools had to

radically be reshaped in structure, practice, population and governance after Hurricane Katrina

(Frontiers, n.d.). In the first few months after the hurricane, the school system in New Orleans

was completely changed (Brown, 2015). The hurricane caused schools in New Orleans to close

abruptly in early August of 2005 and the majority of children did not go back to school until the

following school year or even after that (Hill, 2020).Around 7,000 teachers were fired and the

state took over most of the public schools and eventually turned them into charters where

students were no longer assigned to schools based on where they live. Instead, families got to

decide where they wanted their children to go and entered lotteries for a chance to enroll when

schools began to open up about a year after the hurricane (Brown, 2015). Now fifteen years later,

schools in New Orleans are still experiencing the effects of Hurricane Katrina as some students

come to school unprepared for grade-level lessons (Hill, 2020). Technology back then was not as

advanced as it is today. On top of that, the hurricane damaged and destroyed homes and

buildings that made it challenging for children to do distance learning. However, one thing for

sure, schools in New Orleans were not the same as it was before the hurricane.
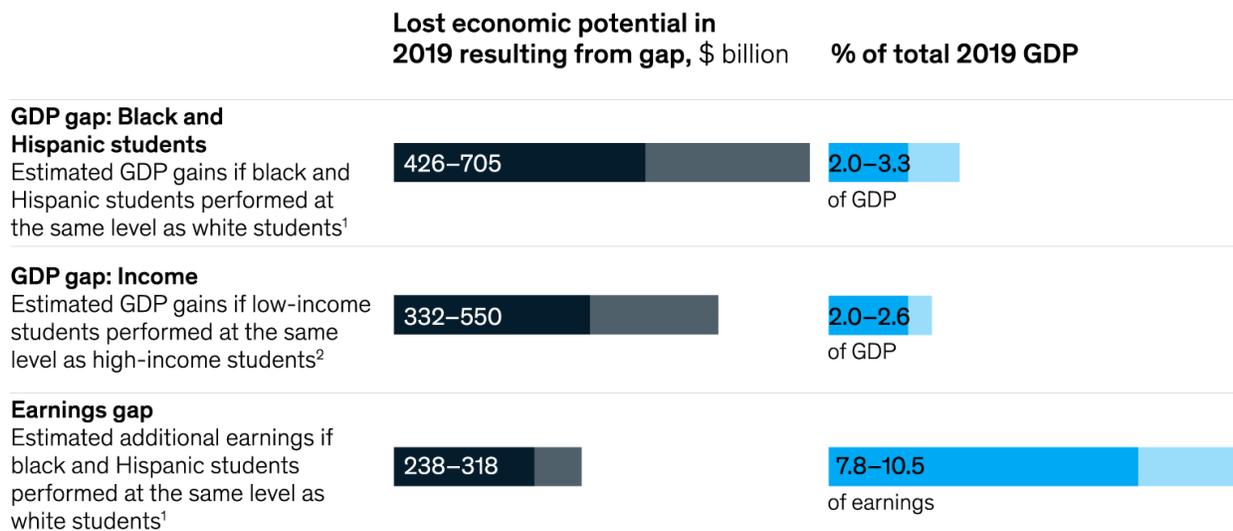
  Although distance learning has been around for decades, it wasn't until recently that the

general public became aware of it. The pandemic caused by COVID-19 has resulted in schools

shut all across the world, where over 1.2 billion children across every grade level are out of the

classroom globally (Li & Lalani, 2020). Although each country is at a different level in their

COVID-19 infection rate as well as the handling of their education, we have all experienced the sudden shift away from the "normal" general classroom. Luckily today we are blessed with great technological advancement that made distance learning easier to perform online.

  With such an unexpected and sudden shift away from face-to-face learning in many parts of the world, some people are wondering whether the use of online distance learning will continue to happen post-pandemic, and how will this shift impact the education world (Li & Lalani, 2020). However, with all the advantages that came from the advancement in technology, the achievement gap between students also became wider. The achievement gap is the disproportion in academic performance between groups of students (Huzinec, 2017). We don't even have to go as far as comparing the achievement gap between students in different countries, as the gap within the United States itself is getting wider than ever. The existing achievement gap in the country was already huge even before the pandemic as it was estimated in 2009 that "...the gap between white students and Black and Hispanic ones deprived the US economy of $310 billion to $525 billion a year in productivity, equivalent to 2 to 4 percent of GDP" (Dorn, 2020). Not only that, the gap between high and low income students was even greater, where it is equivalent to 3 to 5 percent of GDP at $400 billion to $670 billion per year as can be seen in the exhibit below (Dorn, 2020).

Figure 1

The US economy would be significantly larger in 2019 if it had closed achievement gaps in 2009.

	Lost economic potential in 2019 resulting from gap, $ billion	% of total 2019 GDP
GDP gap: Black and Hispanic students Estimated GDP gains if black and Hispanic students performed at the same level as white students[1]	426–705	2.0–3.3 of GDP
GDP gap: Income Estimated GDP gains if low-income students performed at the same level as high-income students[2]	332–550	2.0–2.6 of GDP
Earnings gap Estimated additional earnings if black and Hispanic students performed at the same level as white students[1]	238–318	7.8–10.5 of earnings

[1]NAEP 8th-grade math score: comparison of average scores of black and Hispanic students with white students.
[2]NAEP 8th-grade math score: comparison between low-income (eligible for free lunch) students and high-income students.

McKinsey
& Company

There are different variables that affect how much learning students lose during school closure.

Learning loss will vary depending on children's access to support, tools, and opportunities to

learn as well as individual differences during the shutdown (Hill, 2020). Although the situation is

not identical with New Orleans schools after Hurricane Katrina in 2005, we can learn from

academic leaders and school heads whose schools accepted students after the hurricane. When

talking about how much learning students had lost during the closure, they said that on average,

students came back with more than two years below grade level skills (Hill, 2020). The most

dramatic loss was in mathematics (Hill, 2020). They also said that more often than not, it took

several years of individualized attention to resolve the biggest learning losses (Hill, 2020).

Access to remote learning, the quality of remote instruction, home support and the degree of engagement are some of the factors that help determine the quality of learning for students (Dorn, 2020). We are going to explore all of these variables that affect student achievement and we are especially going to look more into what affects students' engagement during online distance learning.

Synchronous Learning Versus Asynchronous Learning

Whether we realize it or not, the general public has always been exposed to both synchronous and asynchronous learning. The learning process in a traditional classroom can be categorized into synchronous learning. Any learning that takes place where the educator and the learners are engaging in learning simultaneously in real-time is a synchronous learning (Lawless, 2020). With that being said, virtual distance learning can be synchronous as long as it takes place in real time—for example, when an educator live streams a lesson where students can post comments and questions for the educator to answer and give feedback in real time. On the contrary, asynchronous learning is a more learner-centered approach where students get to complete the course at their own pace, regardless of where they are physically (Lawless, 2020). Virtual distance learning can be asynchronous as well, as long as learning happens on each learner's individual schedule. For example, common methods of asynchronous virtual learning include pre-recorded video content and online discussion boards. Both synchronous and asynchronous methods allow for interaction between students, which plays a crucial role in student engagement.

A study by Watts (2016) from Midwestern State University states that student-student interaction is very important in keeping students engaged in the distance learning environment.

The study further indicates that instructors have to consider time constraints, technological ability, and motivation for students to interact in the virtual classroom (Watts, 2016, p. 23). Generally, it is easier for students to get student-student interaction in a synchronous traditional classroom environment as they get to see each other in person and spend recess and lunch together. In a virtual distance learning setting, however, it might be more challenging to achieve that interaction, but with the advancement of technology, it is possible to provide ways for students to interact in both synchronous and asynchronous methods. Although helpful, the advancement of technology has also brought new challenges, as educators have to stay up to date with continuous changes in technology in order to support digitally literate learners, while at the same time making sure that those who are lagging behind are not left behind (Phelps, 2020, p. 1511). This is a key responsibility in a setting where students' digital literacy generally determines their success (Phelps, 2020, p. 1511). In this section, we are going to discuss more about both synchronous and asynchronous virtual methods, including their advantages and disadvantages. In addition to that, we are also going to talk about how Learning Management Systems (LMS) can be used as a tool to help increase student engagement in virtual distance learning both synchronously and asynchronously.

     Synchronous Learning. As previously mentioned, a traditional in-person classroom can be categorized as synchronous learning because it happens in real time and it allows the educator and learners to interact with each other. As a result, synchronous virtual learning can be modeled closely after traditional lessons (Virginia, 2000). Streaming media eliminates the need for a physical classroom as students can attend classes in real time from home (Virginia, 2000). However, with this flexibility comes another challenge, as virtual distance learning reduces

interaction in class and as a result, additional support is generally needed to create an effective learning environment (Virginia, 2000). There are four major areas that teachers need to know to create a successful synchronous virtual learning environment; pedagogical, social, managerial and technical (Berge, 1995, p. 22). Pedagogical refers to the practice of teachers using questions to probe for responses from students that revolve the discussion around critical concepts, principles and skills (Berge, 1995, p. 23). When talking about the social aspect, we are talking about how teachers have to create a friendly social environment where learning is promoted and encouraged by every member of the class (Berge, 1995, p. 23). It is important for students to feel a sense of community within the classroom because it will lead to them being engaged in the lessons. The managerial aspect means that teachers create an agenda that has an objective and timeline with strong leadership and direction (Berge, 1995, p. 23). Last but not least, the technical aspect means that teachers have to help make students feel comfortable with the tools such as the LMS that are being used to support virtual distance learning (Berge, 1995, p. 23).

If teachers manage to master all four areas; pedagogical, social, managerial, and technical, synchronous virtual learning can have many advantages. It can be convenient for both the teacher and students as physical barriers are eliminated while at the same time, teachers can provide immediate feedback as learning is done in real time (Chauhan, 2017, p. 1346). Learning can also be highly motivating and can foster a sense of community as every member of the class can interact with each other in real time (Chauhan, 2017, p. 1346). Teachers can also provide time for students to build community by playing games or working in groups. However, with all the advantages, we also have to consider the limitations of synchronous virtual distance learning. As it is strictly technology-based, both the educator and learners have to possess basic

knowledge in using the technology such as the LMS (Chauhan, 2017, p. 1347). The technology

used in LMS constantly changes, so both parties have to keep adapting to the changes by

continually learning about them. Moreover, this type of learning also requires a high speed

internet connection (Chauhan, 2017, p. 1347). As learning is done from home, it is hard to make

sure that everyone has a strong internet connection, as each family's circumstances might be

different. We are going to dive deeper into this topic in a later section about students'

backgrounds. Teachers have to be mindful of both the advantages and disadvantages of this type

of learning in order to know what they need to pay extra attention to, to ensure that learning is

successful and that students are engaged.

   Asynchronous Learning. In order for asynchronous virtual distance learning to be

successful, each learner requires a high degree of independence and skill since it is done on each

learner's schedule (Virginia, 2000). Self-discipline and focus in completing the lesson is needed

for learners to be successful in this type of learning (Lawless, 2020). A study shows that the

learner perceptions of the technology in asynchronous learning are positively correlated to

learning intentions and outcomes to further use the technology (Carswell, 2002, p.g. 475). The

study "...employed two dominant theories—the theory of planned behavior and innovation

diffusion theory—to study student reactions to web-based distance education (Carswell, 2002,

p.g. 475). Both synchronous and asynchronous learning can use the same technologies such as

e-mail, blog discussion boards and LMS. During asynchronous learning, learners get to learn at

their own pace in a low stress environment (Chauhan, 2017, p. 1346). When they need to listen

to a lecture or instruction for a second time, or if they need to think about a question for a little

bit longer, they can do so without being scared that they might hold back the rest of the class (Chauhan, 2017, p. 1346).

There are many advantages to this type of learning. For instance, asynchronous learning offers a lot of flexibility for students because they can progress at their own pace (Lawless, 2020). It can also benefit educators as once they have created their asynchronous learning content such as video recording of their lesson, they can use it as many times as necessary. All they need to do is share the video instead of having to re-record it over and over again (Kokoulina, 2020). Educators can use the extra time on getting feedback and focusing on learners who might need extra guidance (Kokoulina, 2020). This type of learning might also be helpful for introverted learners as it may eliminate their social anxiety if they get to learn from their home (Chauhan, 2017, p. 1346). However, just like synchronous learning, there are limitations to asynchronous learning as well. Since learning is self-paced, interaction between class members may be limited as learners might have to wait for an answer from teachers and moreover, teachers cannot give immediate feedback to students (Lawless, 2020). The lack of interaction with educators and fellow students might cause some individuals to feel isolated, which could lead to a lack of motivation and as a result, lack of engagement in lessons (Lawless, 2020). Teachers need to "...carefully design the interest curve for an asynchronous lesson" to make sure that student engagement stays high (Kokoulina, 2020). Communication can generally be difficult due to the isolation and no designated time to interact (Chauhan, 2017, p. 1347). At the end of the day, the type of learning being chosen depends on several factors; the learning objectives, the types of lessons, delivery of lessons, and most importantly, how the learners can learn best (Lawless, 2020).

Despite the limitations of both synchronous and asynchronous learning, some of them can be overcome by making sure that the correct LMS is chosen based on the circumstances (Lawless, 2020).

Learning Management Systems (LMS) for Virtual Distance Learning. Whether virtual distance learning is done synchronously or asynchronously, Learning Management Systems (LMS) can be a great tool to use to conduct lessons. Distance learning needs a platform to deliver educational subjects, and LMS "...provides the virtual platform for e-learning by enabling the management, monitoring student, delivery, tracking of learning, testing, communication, registration process and scheduling" (Cavus, 2015, p. 874).

Synchronous and Asynchronous learning tools, such as threaded discussions, instant messaging and blogs play an important role in humanizing online courses by replicating the classroom experience of information exchange and social construct, not just between learners and instructors but among the learners as well (Shahabadi, 2015, p. 134). There are many different LMS that teachers can utilize to accommodate online distance learning. As a matter of fact, the LMS that are currently available are highly diversified, and each LMS has its strengths and weaknesses. For example, some LMS are more user friendly than others, meaning that it is easy to navigate and and use, and on top of that, it might even have a feature that supports different languages so both students and parents can work through the LMS with their preferred language (Enfroy, 2020). Each LMS also offers different features and services. It is important for teachers to know all of this information in order for us to be able to determine the platform that will work best for the activities we create for the students. More than that, one of the most crucial factors that influence the effectiveness of the distance learning process is the interaction between

the teacher and the student (Offir, 2008, p.g. 1172). Some LMS accommodate that interaction

while others do not. Some LMS may provide resources in different formats such as quizzes,

videos, or forum discussions to support learning (Chaw & Tang, 2018, p.g. 152). Different

resources have different benefits and purposes, so it is important for teachers to know what

features and services in LMS would be beneficial and helpful for the learning process in order

for them to be able to choose the perfect LMS for their students.

Some people might think that early elementary age students cannot benefit from using an

LMS because they are still developing their writing, reading and fine-motor skills (Gann, 2018).

However, today's young learners grew up with technology as the market is full with applications

and games that can be educational for them (Gann, 2018). Teachers can use this opportunity to

create engaging lessons using the technology that most young students are already familiar with

because they can quickly and easily master the basics of using an LMS (Gann, 2018). Despite it

all, it is important for teachers to choose an LMS that is straightforward and user-friendly

because a complex one might be a huge hurdle to get over (Madda, 2019). As learning is being

done at home, it is important for learners to take ownership of their own learning and LMS can

help with that by providing transparency of the learning process, encouraging active learning,

allowing easy access to lessons, and enabling opportunities for students to interact with each

other and with the teacher (Madda, 2019). Communication is important and it can be achieved

through features such as direct messaging and comments on posts or assignments (Madda, 2019).

Communication between parents and teachers is also important, however a study has shown that

although parent engagement in young children's learning is high, it decreases steadily as students

progress through the grades ("Parental," 2013). "Successful implementation of an LMS bridges

the gaps between the classroom and the home, creating a shared learning experience between the student and parent throughout the student's academic career" (Madda, 2019). The right LMS will help make it easier for parents to continue being engaged with their children's learning. If the whole district adopts the same LMS, parents of more than one child in that district can find information through LMS with one click instead of having to find it one by one (Madda, 2019). A good LMS should have a feature that allows teachers to do skill assessments in a variety of ways such as peer reviews, feedback tools, or even fill-in-the-blank or multiple choice sections (Evaluating, 2019).

Although a list can be created of what a perfect LMS should look like, in reality, there is no perfect LMS as much of the success of the lesson lies in how the tool is used (Madda, 2019). It is important for teachers to know what features can assist them the best in delivering the content and how students can engage through that LMS.

How to Increase Engagement in Each Subject

Just like in a traditional general education face-to-face classroom setting, the types of activity play a big role in students' engagement. Engagement can be defined as "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" (Student, 2016). Although there are limitations on what can be done online versus face-to-face, there are many different ways to make the activities engaging. There are a lot of different aspects that have to be considered while creating the activities: for example, making sure that teachers are able to convey clear instruction on how to do an activity, or something as simple as finding out what activity draws the most engagement from students. When teachers

have such knowledge, they can incorporate it to create activities that can get the most

engagement from students.

Math. In the past, most people learned only one way to add or subtract in elementary

school as it was the standard algorithm; "stack numbers vertically, add the digits in columns, and

carry the ones where necessary" (Edge, 2020). Today, there are many different methods for

solving simple addition and subtraction problems. According to Michele Carney, an associate

professor of mathematics education at Boise State University, over the past 40 years, it has been

emphasized by education research that "...teaching math should start with building students'

understanding of math concepts, instead of starting with formal algorithms" (Edge, 2020). The

goal of learning mathematics is not for students to just memorize "the way" to solve problems,

but for them to be able to comprehend and understand the numbers and how it works.

"You're looking at this paper, you're looking at this poor kid, they're waiting for

instruction and it's like, 'I have no idea how to do this,'" says Amberlee Honsaker, a parent of

Raegan, a first grader (Edge, 2020). Some parents are trying to learn "the new way" of doing

math while others simply said that they're "...ditching the school's methods to teach kids math

their way" (Edge, 2020). Parents are not the only ones who get frustrated from this, as teachers

struggle to maintain their teaching. Jen Crook, a second grade teacher in the West Ada district in

Idaho, says that, "It's a challenge. At least, at the second-grade level, we're laying a foundation

for strong, solid number sense… I don't want to discount what parents are trying to do, but

they're kind of unraveling what we've taught" (Edge, 2020). One parent even went further to say

that it became a lot easier to teach and understand math "once we dumped the Common Core

method and went back to the old math" (Edge, 2020).

According Daniel Kopsas, a mathematics instructor at Ozarks Technical Community College, effective communication is an important ingredient in engaging with online students in order to provide an authentic learning experience for them (Kopsas, 2015). American Mathematical Society (n.d.) says that it is important for teachers to keep flexibility and empathy in the forefront, as not every student has ideal learning or internet environments at home. They also say that teachers don't have to have it all figured out in advance, as teachers should be flexible so "...it is ok to build the course week by week and adjust as you go" (American Mathematical Society, n.d.). West Ada (n.d.) district has a "Math Help" section on its official website that lists tips for parents on how to help their children with the subject that is categorized into each grade level and its modules. Each module then has information like the sample of problems from said module and a sample of how students might try to solve it, as well as the terms, phrases and strategies in said module, how you can help at home, and even the key Idaho content standards (West Ada, n.d.).

It is important for teachers to recognize that sometimes, it is not that parents/guardians do not want to provide assistance for their children to learn. Instead, it is because they do not understand the current curriculum as it is different from the one they had to learn growing up. Likewise, it is important for parents/guardians to know how the current curriculum differs from the one they knew in the past. If teachers and parents/guardians can work together to figure this out, students should be able to get the support they need to be engaged and successful in the lesson.

Science. Be creative because science is everywhere, which means that there are so many different ways teachers can teach science virtually, from simple at-home experiments and

observations to virtual field trips. Some of the experiments can be simple and observation-based while others can be hands-on, so make sure that the materials needed are likely to be found in a student's house (Tobin, 2020). Clear step-by-step instructions are also important to avoid confusion. If you are not sure if every student will have the materials needed for the experiment, you can do a virtual scavenger hunt. Jenifer Levinson, a first grade teacher at Meadow Elementary School in Baldwin, New York, did a scavenger hunt with her students "...where the students were asked to spell out their school name, Meadow, with items they found around their house" (Impelli, 2020). She said that a student used a stuffed dog for the letter 'D', while another used an orange for the letter 'O' (Impelli, 2020). Students can really use their creativity in choosing the items that represent the letters.

Another activity that can be done to teach science is taking a virtual field trip. Many places like farms, museums, planetariums, national parks, and more, have added virtual tours and virtual field trips on their websites (Tobin, 2020). Teachers can ask students to observe and take notes on what they noticed during the virtual trip. Teachers can also choose to give students guided assignments about the trips or simply let them explore virtually (Tobin, 2020). Normally, students can only physically go to places that are relatively close to their schools during field trips. However, with virtual field trips, students can basically go "anywhere" around the world. Virtual field trips can increase student engagement as it brings real-life experience to their homes and it also provides students with the opportunity to engage with and learn about authentic artifacts, to explore places related to the lessons, and to interact and connect with experts on that particular field of study (Raines, 2014). Moreover, virtual field trips can be personalized based on the interests and characteristics of the students that allow them to get access to resources that

"...are useful in the course and beyond, culminates in a learning activity that is effective in achieving course objectives, promoting disciplinary socialization and is satisfying and enjoyable to the learner (Rainer, 2014). A study shows that there is a significant increase in attitude and knowledge from before and after a course that included virtual field trips (Raines, 2014).

By knowing available options and resources that can be used for science lessons, teachers should be able to create engaging lessons for students. Moreover, parents/guardians can also access the resources to experience firsthand what their children are learning.

Literacy. "Even when we're teaching reading remotely, we must continue to deliver high quality, personalized literacy instruction, and prioritize books, as well as provide clear guidance and student appeal" (Barrett, 2020). Teaching literacy virtually can be more challenging than doing it face-to-face especially for students who are at low reading levels and those whose first languages are not English. However, it does not mean that it is impossible. If anything, teachers can use this opportunity to be creative in creating engaging lessons for students.

Heather Fuger, an elementary school principal at Iowa's Central Lee Community School District whose work on improving student literacy has been recognized by the state of Iowa, and Emily Maciá, a former principal at Achievement First New York and Panorama Client Success Manager, talked about six ways to address literacy learning losses during distance learning (Laughlin, n.d.). One of the six ways is to "celebrate students and families for doing what they can during this period of distance learning" (Laughlin, n.d.). Fuger says that "we need to be understanding and listen to what others have been through, to help us navigate what's next" (Laughlin, n.d.). She further explained that we can then be intentional about the next step and get back on track to help students feel successful (Laughlin, n.d.). Another way is to "understand

how students and families are experiencing distance learning" (Laughlin, n.d.). Maciá says that to better understand and address family needs during this time, numerous districts ran distance learning surveys. She further explained that "the data can give you a baseline for where students are now, so you can make a plan for where you want them to be when they return to school" (Laughlin, n.d.).

Plenty of research and case studies have been conducted on how to create engaging and meaningful virtual literacy lessons. Although most of them were conducted before the pandemic happened, the outcomes are still relevant and useful in facing today's situation. Dr. Karen Anderson (2010) and Frances May, professors at the University of North Texas, did research where they questioned if the method of instruction matters. Her study shows that the venue of instruction does not affect the effectiveness of teaching literacy (Anderson 2010: 498). Dr. Rebecca Van De Vord (2013) conducted a similar study that found that students could gain benefit from the integration of different literacy skills like media and visual literacy. On top of that, "choosing the appropriate educational technology to deliver information literacy instruction is a critical step, as the technology can either enhance or diminish the user experience" (Ragains, 2013). Another theory that has been used for literacy lessons is the Before, During and After (BDA) framework (Stebick, 2007, p. 3-5). An example of a literacy lesson following this framework is as follows:

1. Before: "think aloud" in which teacher can assess students' prior knowledge on the topic,

2. During: "guided reading" in which teacher introduce and provide supportive text,

3. After: "independent reading" in which students work independently and the teacher can informally assess if the objective of the lesson is met or if more lessons are required (Stebick, 2007, p. 3-5).

The BDA framework allows educators to provide clear learning objectives of each activity by defining the guiding questions during each part of the writing and reading lessons (Stebick, 2007, p. 3-5).

However, as we will discuss more in the next section, not every student has the same opportunity and access to tools and resources that might be needed to ensure that the learning process goes smoothly.

Students' Backgrounds

Students come from different backgrounds and as a result, have different opportunities, resources, and support when they are not at school. Now that they do their learning from home, those differences play an even more crucial role in their engagements with their school related activities. There are many different factors that affect their engagements, such as the kind of support they are getting from their surroundings, access to resources, or even their family's first language. Some students might do fine or even excel during this pandemic because they have better support and resources while others might be falling behind because they don't have the same tools and foundation. Each child should get the same learning opportunity and it is more challenging to make sure of it in an online distance learning setting. However, that does not mean that we should just turn a blind eye on this issue.

By being aware of what factors in children's backgrounds affect their engagements, we can provide accommodations accordingly while making sure that each student is held to the same

high academic standards and expectations. This way, we can make sure that no child will get left behind.

      Family Income. Without a doubt, the COVID-19 pandemic has affected every single person in this world. However, it is very clear that those who are poor are affected by it even more than the rich. A study that was conducted by Ball State University's Department of Educational Psychology found that counties that are financially disadvantaged had more confirmed COVID-19 cases during the first few weeks of the pandemic. However, circumstances changed by the beginning of April 2020 as more affluent counties ended up having more confirmed cases. The study then suggests that this phenomenon might happen because the testing for the virus was less available in the disadvantaged counties later in the pandemic, compared to when it first started because of the lack of adequate testing resources across the country (Finch, 2020). Those who are "...the most economically challenged in our society will be the most vulnerable in this crisis, and the most advantaged are most likely to survive it without losing too much ground" (Mineo, 2020). Approximately 85% of the most affluent families said that their children had interacted with their teachers since distance learning started while only 62% of the lowest-income families said so (Barnum, 2020).

      How does the information in the previous paragraph connect to student engagement during distance learning? Paul Reville, a former secretary of education for Massachusetts, says that there have always been huge gaps in students' learning opportunities when they are not at school such as "...after school, weekends, and in the summer. Disadvantaged students suffer the consequences of those gaps more than affluent children, who typically have lots of opportunities to fill in those gaps" (Mineo, 2020). Those who are in poverty might not have internet access at

home and thus be prevented from accessing materials and activities online. Many states in the

United States have recognized this issue and tried to create solutions for it. "Boston, for example,

has bought 20,000 Chromebooks and is creating hotspots around the city where children and

families can go to get internet access" (Mineo, 2020). This, of course, is a great start to fill in the

gaps in technology and internet access for the state. However, there is another factor that has to

be put into consideration: frustrated parents or guardians.

According to a poll by The Associated Press-NORC Center for Public Affairs Research,

parents are concerned about their children falling behind academically; 72% of families that earn

less than $50,000 per year are at least somewhat concerned about that in comparison to 56% of

families in high-income households (Flaccus, 2020). "We don't have the luxury right now to not

be working. Some people aren't working at all and they can make time to do this stuff, but that

for us is just not an option" says Megan Perrone, a nurse who barely has time to help her

second-grade daughter with schoolwork until after she gets home. Although her husband works

from home, he has to stay in the basement because his job is largely done by phone. As a result,

their 8-year-old has to supervise her 2-year-old sister (Flaccus, 2020). Students who are from

lower-income families will be more likely to experience family instability, economic disruption

and food insecurity (Dr. Kuhfeld, 2020).

Minorities. Minority children are less likely to attend schools that are well-equipped to

provide distance learning; their schools are half as likely to offer online instruction during this

pandemic compared to low-poverty schools (Hayes, 2020). As a result, students who go to

high-poverty schools are 3.6 times more likely to have to pick-up and drop-off homework and

materials from school (Hayes, 2020). This is very concerning because the achievement gap

between minority students and white students is already big to begin with as a study conducted by Stanford University suggests that Black and Latino students are generally a few grade levels behind their white peers (Herald & Smith, 2016). "Many factors could explain these disparities: Technology access issues; responsibilities at home, including caring for siblings; stress from the pandemic, which disproportionately hit people of color…" (Barnum, 2020). According to an analysis from USAFacts, 37% of American Indian and Alaskan Native children don't have internet access, and 19% of black children and 17% of Hispanic children have no internet access compared to 12% of Asian and white children. There are approximately nine to 12 million students who don't have access to the internet at home (Camera, 2020).

Latino Decisions (2020) conducted a national survey from 1,195 Latino parents and grandparents using a blended approach including online surveys and telephone interviews to learn more about the challenges that COVID-19 has created for Latino families during distance learning. The study finds that 65% of Latino families find it challenging to help their children with schoolwork because they are not familiar with the subject and assignments. The lack of high speed internet required for using LMS also makes it difficult for the families to easily transition to distance learning. When asked about what resources that Latino families would like to have to support them regarding their children's education, "...74% would like to have one-on-one tutoring available… including 86% among immigrant families. Similarly, 76% respondents want to have more in-person time with their children's teachers…" even if it happens over the phone (Latino Decisions, 2020).

Teachers from schools who have predominantly Black students say that the engagement rate is less than 50% whereas schools with few Black students reported engagement rates of 60%

to 70% (Kraft, 2020). Low-income students of color are more likely tasked to review materials rather than learning new topics. In a survey that focuses on schools with mostly Hispanic, Black, and low-income students, only 22% of teachers reported spending most of their time on new content in comparison to 43% in other schools (Barnum, 2020).

Students who are English language learners (ELL) also face a bigger challenge as communication becomes more challenging in a virtual classroom. Most schools provide translations in Spanish because of the large population of Spanish speaking students and families. Some districts, like one in Seattle, Washington, offer translations for materials in six languages: Mandarin Chinese, Vietnamese, Spanish, Somali, Amharic, and Tagalog. However, there are approximately 7,000 ELLs and they speak a total of about 160 languages in that district (Mitchell, 2020). That leaves many students without materials translated into their languages that makes it more challenging for them to learn and get support from their guardians who might also be ELLs.

Not to mention students with learning and/or physical disabilities. Martha Moriarty, the executive director of Learning Disabilities Association of Minnesota, says that distance learning can be especially challenging for students with learning disabilities, especially those with ADHD, or attention-deficit or hyperactivity disorder (Steiner, 2020).

These factors affect students' engagements because as much as they might want to be engaged, it is more difficult for them to do so because of the extra challenges they have to face compared to their affluent, usually white peers. Teachers have to know their students' backgrounds in order for them to be able to provide and accommodate for the students.

How Student-Centered Approach Plays a Role in Increasing Student Engagement

Barbara McCombs, a Senior Research Scientist at University of Denver did a study with her colleagues in the span of 15 years that indicates that "...the learner-centered principles and their practices form a universal, systematic framework for accomplishing quality instruction in any context" (McCombs, 2015). She further explains that the media or platform that is used should match students' needs to be actively engaged in making choices about how they best construct their knowledge, which can be something like social media to meet students' needs for personal interactions and a sense of belonging (McCombs, 2015). The student-centered approach is ecological as it examines both the contextual and personal factors that affect students' learning and motivation (McCombs, 2015). It was previously discussed in an earlier section that Learning Management Systems (LMS) can be a platform to support communication between the members of the class in the beginning of this chapter. Some LMS can facilitate communication between students where they can comment on each other's work. That being said, those LMS can essentially work as a "social media" for elementary students. This can help meet students' needs for personal interactions.

Shannon Riggs (2020), the Executive Director of Academic Programs and Learning Innovation at Oregon State University says that there are three questions to be asked in creating student-centered distance learning; "how will my students interact with the course content?", "How will my students interact with other students?", and "how will my students interact with me, their instructor?" She further explains that those three questions can help teachers see the course from the student's point of view and as a result, can think about remote instruction in a new light (Riggs, 2020). Furthermore, she also says that having students do something with the

course content or topic is the main point of student-centered interaction. Therefore, teachers should create opportunities for active learning, which means that learning should be meaningful and able to encourage students to reflect on their learning. If teachers are able to achieve that, they have basically got the correct answer to the first question that involves students and course content interaction (Riggs, 2020).

Another important type of interaction is student to student interaction, as stated in the second question. Student-student interaction promotes community and critical thinking (Riggs, 2020). That being said, teachers can help facilitate interaction between students through activities like discussion forums and group projects, or encourage them to give respectful feedback on each other's work. For example, like we have discussed in previous sections, some LMS have a feature where students can comment on other student's work. Teachers can encourage students to give feedback to each other by commenting on their peers' work. Studies have shown that the level of student engagement varies by the learning environment and opportunities that teachers create in the classroom (Nguyen et al., 2016, p. 169). Several researchers found that interaction is a crucial element to student learning and to the overall effectiveness and success of distance learning (Sher, 2009, p. 103). Student-student interaction especially can help foster learning through knowledge sharing and collaboration. One study claims that it is imperative that virtual distance learning "...provide students with what is valued in education: interaction with instructors and other students" (Sher, 2009, p. 117). Vygotsky says that collaborative learning is crucial in building students' own cognitive process and if they cannot share their thinking effectively, it may lead to unsuccessful learning outcomes (Soller, 2004, p. 353). Vygotsky's theory about cognitive constructivism; learners actively form knowledge with prior knowledge

as the foundations, is the paradigm that guides my work as I want my target audiences (teachers and parents/guardians) to be able to expand and create new knowledge from my project (Baker, et al, 2019). In connection with cognitive constructivism, one of the goals of my project is to encourage my target audiences to perform an action and self directed learning (SDL) by activating their prior knowledge on the situation and create an action based on the new information they learn through my project.

On top of student to student interaction, student and instructor interaction also plays a crucial role in a student-centered distance learning environment. "For fully online classes, the US Department of Education requires that instructors provide regular, substantive, and instructor-led interactions to distinguish online classes from correspondence courses" (Riggs, 2020). Teacher and student interaction is especially important because when students know that their teacher cares about them, they will more likely be motivated to attend classes which will then lead to their academic success (Waterford, 2019). In a study conducted on second-through-fourth-grade students in the Philadelphia School District during six years' duration, it was found that "...students with a higher proportion of unexcused absences place them at academic risk, particularly math achievement and as early as in elementary school" (Gottfried, 2009). Teachers can facilitate interaction between themselves and students by doing activities like video calls through Zoom or Google Hangouts, sending videos to students, or even wishing them a happy birthday. Studies also suggest that another way to help build teacher-student relationships is by storytelling, where personal anecdotes are involved to connect with students (Mello, 2001).

With all that being said, even though it can be more challenging for teachers to create student-centered learning environments during online distance learning, it might be easier to

achieve by making sure the three interactions are fulfilled. Student-centered lessons are especially important during distance learning as it provides multiple opportunities for students, teachers, and even families to engage in the learning in a new and meaningful way especially when implemented with high fidelity (Doughterty & Schantz, 2020). Student-centered approach gives voice and choice to students which can make learning engaging and motivating.

Summary

In addressing the question that is guiding my research; *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* this chapter begins with the introduction to online distance learning, starting from the history of it when it was first recorded, to how the pandemic caused by COVID-19 made it more relevant than ever. It served as background knowledge necessary for understanding how important distance learning is in our society today.

The chapter then went on to address two different types of learning; synchronous and asynchronous. This section further discussed the advantages and disadvantages of both learning types. Moreover, this section also talks about Learning Management Systems (LMS) and how it can be a powerful learning tool for both types of learning. In addition to that, this section also discussed what features in LMS can be helpful for elementary students. Next, the chapter talked about the types of activities and what can be done to increase engagement in different subjects. Lastly, it talks about how students' backgrounds affect their engagement.

Chapter three will provide an outline of a website developed from the findings of this paper. The website will help teachers and parents/guardians of elementary students get insights on what factors affect student engagement during online distance learning. As a result, it will

serve as a guideline for teachers to create engaging lessons during online distance learning. Parents will also be able to familiarize themselves with the tools such as the LMS being used so they can provide guidance for their children.

CHAPTER THREE

Project Description

Introduction

In chapter two; the literature review, I was able to do research on student engagement during virtual distance learning. As a result, not only was I able to gain and digest more information on the topic, I was also inspired to spread the knowledge to teachers and parents/guardians of elementary students. When I first started deciding on the topic of my capstone project research, I wasn't sure if online distance learning would be a great idea because even though it has been around for centuries, it wasn't until the COVID-19 pandemic that the general public was exposed to it. I wasn't sure if there would be enough credible and relevant information that I could use. I found out that I was right; it was more challenging to find recent scholarly articles on the topic. It made me realize that this topic is the right one for me because I want to be able to help provide ideas and solutions to situations that might arise because of online distance learning. I want my research and project to be able to answer this question: *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?*

In order to answer that question, one has to first know the history of virtual distance learning and how the COVID-19 pandemic has made it more relevant than ever. By knowing this background information, one will be able to better understand what virtual distance learning is. It is also important to learn about the different learning management systems (LMS) that can be used to facilitate learning in order for teachers and parents/guardians to be able to utilize and use the LMS to its fullest potential. Knowing how to increase engagement in each subject is also

important to make sure that no subject gets left behind, meaning that each subject will be engaging and fun for students.

Because learning will be done at home, students' backgrounds become even more crucial than ever. It is important to know that not every student has the same quality of resources and support. However, teachers have to make sure that each student will get the same opportunity to learn in order for us to ensure that no child will get left behind. However, teachers cannot do it alone, parents/guardians need to be hands on in their child's learning during virtual distance learning. As learning is done at home, a student-centered approach plays an even bigger role than before because teachers are not always with them during "school time." These are all important information that teachers and parents/guardians need to help increase student engagement and my project is going to cover all of these topics.

Project Overview

I had the opportunity to find the answer to my capstone project question by doing research when writing chapter two. As I was brainstorming and researching the best possible way to provide this information to teachers and parents/guardians who might need it, I realized that most teachers and parents/guardians can access websites from their phones. Creating a website that can reach my target audience, teachers and parents/guardians, who are looking for information to help them with their child's virtual distance learning would be the best approach to this project.

I wanted my website to provide information that can facilitate cognitive constructivism for the visitors where they can build on what they already know and expand their knowledge on the topic. For a lot of teachers and parents/guardians, the information provided on my website

can be a transformational learning for them. More than that, I also want the learning to be an action and self directed learning (SDL). Visitors of the website can use the information available and apply it according to their own situation. The platform that I used to create my website is Wix. I tried a few different platforms but I decided to go with Wix because I wanted my website to be as responsive and interactive for the visitors as possible and I was able to achieve that with Wix. The goal of my website is to provide resources for teachers and parents/guardians to face the challenges they might face while accommodating virtual distance learning for elementary students.

Rationale

One of the biggest challenges in conducting engaging and successful virtual distance learning is making sure that teachers and parents/guardians have the right resources and tools to support learning. However, there is a lack of information regarding online distance learning because although it has been around for a long time, it is relatively new in the public's eyes. On top of that, the pandemic has changed some aspects of it. Thereby, the rationale behind this project is to produce a website that contains information to help teachers and parents/guardians of elementary students to expand their knowledge of how to help increase student engagement. A website is an appropriate platform to provide ideas and solutions that might help them in making sure that students will still get a high quality learning. The information provided in the website is based on the research findings that are outlined in Chapter Two.

The paradigm that guides my work is cognitive constructivism from Piaget Vygotsky because I want to enable website visitors to expand and create new knowledge (Baker, et al, 2019). Vygotsky's theory revolves around actively forming knowledge with prior knowledge as

the foundations which adult learners (teachers and parents/guardians) most likely have (Baker, et al, 2019). It is the perfect paradigm for my project because it is a platform in which information is presented to encourage my target audience to use problem-solving skills that allow them to go beyond the information presented on my website. It should increase critical thinking and creativity of the audience.

In relation to that, my audience is going to do a self-directed learning (SDL), which according to Malcolm Knowles is "... a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Weill, 2014). It is important for my audience to do SDL because at the end of the day, each teacher and parent/guardian has different circumstances, support, tools, and resources available to them. Although my website provides information regarding what they can do to increase student engagement, learning should be self-directed based on their situations.

After teachers and parents/guardians figure out what strategies will work best for their situation based on the resources provided on my website, they will have to implement them into action. Here is where the action learning approach that was developed by Reg Revans will come to play; this approach will first clarify the problem and reflect and identify possible solutions before taking action (Colman, 2020). My website has a section that serves to clarify the problem by providing the history and background of online distance learning and the challenges within it. The website also provides resources and identifies possible solutions to the challenges based on

the research in Chapter Two. After this, the audience should be able to take actions based on what they have learned.

Audience and Setting

As previously mentioned, the target audience for my project consists of teachers and parents/guardians of elementary students; teachers who are preparing for lessons or those who need resources and ideas, and parents/guardians who are trying to help their children with learning from home. It is a trying time, and most of them lack knowledge in virtual distance learning because it was not until recently that they were exposed to this practice. My project focuses on elementary students, because I wanted the information to be as precise and accurate as possible instead of very broad. The ages and races of my audience will vary and because of that, I made sure that my website can cater to everyone.

For teachers who are struggling or just looking for inspiration to create engaging lessons for students, my website provides background information that they need to know in order for them to be able to create personalized learning for the students. My website has information regarding the importance of students' backgrounds so teachers will know what to prepare based on the needs of their students. In addition to that, parents/guardians who are facing challenges such as the "new way of doing math" can get into my website and obtain information that will help them in understanding why "the way" of doing math is changing. Information regarding learning management systems (LMS) is also available on the website so parents can familiarize themselves with how the LMS works.

Project Outline and Timeline

The website for this project has a homepage that has a header with links to different pages of the website. The homepage is easy to navigate to make it easy for visitors to find information. There is a live chat option on the bottom right of the website where visitors can ask me questions or give information and feedback. In addition to that, there are also several different sections on the website about different information:

1. An "About" page where it talks more about the goal of the website,

2. History of distance learning that will also include the background information on the topic,

3. Synchronous versus asynchronous learning along with how LMS can be used as a tool in both types of learning,

4. And tools and resources for teachers and parents/guardians to help increase student engagement

On top of that, the website also has a section where the audience can interact by sharing their experience or advice for fellow teachers or parents/guardians. They are going to be able to leave comments and feedback both on my content and posts created by others. The website is structured in a simple yet interactive way so that it will be easy to navigate.

The first step for me to complete this project was to create the structure of the website. After that was done, I put the research I did on chapter two on each section of the website. Last but not least, I then worked on the aesthetics of the website to make it easy on the eyes and easy to navigate. I originally planned to have this project completed in the span of four months starting from August 2020 to November 2020 so that it would be ready for visitors in December

2020. I am so thankful that I was able to finish the website for this project by the end of November and achieved my original goal to have it ready for visitors before the end of 2020.

I will use the traffic of the website as well as the posts and comments made by the visitors to measure the effectiveness of my project. I am hoping to have at least 50 visitors in the first two months. In addition to that, I am also hoping to have at least 10 posts and comments by the end of January 2021. If both goals are achieved, my website will then be successful in achieving what it's meant to achieve.

Summary

How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning? This project is created in hopes to eventually help students in learning during this difficult time. Even though the target audience is the teachers and parents/guardians, it is the students that I hope to benefit the most from it. By providing information that will expand the knowledge of their teachers and parents/guardians in increasing their engagement with learning, I hope to help make sure students get the support they need from the adults in their lives so that they will still get a high quality learning during online distance learning.

With a more in depth description on what the project will look like, the next chapter will provide an overview of the project in its entirety. I am also going to reflect on the project as well as the limitations this project may encounter. Furthermore, Chapter Four will also touch on what I hope to add on this project in the future.

CHAPTER FOUR

Conclusion

Introduction

The COVID-19 pandemic has affected every single person on this earth. Everyone has to adapt to the new "normal" whether they like it or not. Some workers who used to work in an office now have to work from home. For some, this change does not really disrupt their routine except maybe they can dress more comfortably while working from home. For teachers, however, working from home completely changes their day to day lives as they have to teach in a virtual distance learning environment. For students, especially the younger ones, this change could be very challenging as they had to re-learn the new way of "doing school" which requires help from parents/guardians as they are the adults who are physically present with their children. That is why the goal of my project is to help answer this question, *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?*

To answer my research question and to convey the information I gained through research, I decided to create a website to reach my target audiences: teachers and parents/guardians of elementary students. My website has the following pages: Home, History of Distance Learning, Synchronous Versus Asynchronous Learning, Tools and Resources, Contact, and References. All of the information written on each page was discovered through the research I did in Chapter Two.

Chapter four is a reflection of my capstone process from this paper to the project. It will include knowledge that I have gained through research and the writing process. As with most

things on this earth, my project has limitations that I have not been able to overcome for now. I will talk about those limitations as well as future plans I have for this project. In addition to that, I am also going to present my recommendations for future research projects. Finally, this chapter concludes with a reflection on my future research agenda as well as my growth as an educator, learner, researcher and writer in creating my project.

Literature Review Revisited

As previously mentioned, the purpose of my research was to answer the question, *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* The literature review and research presented in Chapter Two were designed to answer my research question. My goal was to provide information as well as tools and resources for teachers and parents/guardians who might need them.

The literature review focused on five different areas; history of distance learning as well as how the COVID-19 pandemic has made it relevant, synchronous versus asynchronous learning as well as how Learning Management Systems (LMS) can be used as a tool to support both types of learning, how to increase engagement in each school subject, how students' backgrounds affects their engagement, and finally, how a student-centered approach can increase student engagement. The literature review started with the history of distance learning because by knowing where and when it started, to how it has evolved over time, it will give my target audiences a better understanding of virtual distance learning. This section will also talk about how the COVID-19 pandemic has caused an unexpected and sudden shift from in person learning to distance learning which affected over 290.5 million elementary and secondary children across the globe (UNESCO, 2020).

The second section talked about synchronous versus asynchronous learning. There, I explained the definition of each type of learning and provided examples of both as virtual distance learning can take form in either type of learning. I focused on the strengths and weaknesses of both types of learning so educators can decide which learning type will work best with their lessons. I also talked about Learning Management Systems (LMS) in this section as LMS can be used as a tool to support both types of learning. I focused on the features and services that teachers might want to look at before deciding on which LMS to use for their lessons. Moreover, some LMS have features that support teacher-parent interaction and if implemented successfully, can bridge the gap between school and home where parents/guardians can constantly be involved in their children's schooling (Madda, 2019).

The next section focused on ways to increase student engagement in school subjects such as math, science and literacy. This section is not intended only for teachers, but for parents as well. For instance, parents/guardians have been complaining about how the "new way" of doing math is different from how they were taught back when they were in elementary schools (Edge, 2020). As a result, some of them began to ignore the Common Core method and started teaching their children the "old way" of doing math which resulted in them ultimately unraveling what teachers had taught the children (Edge, 2020). This section has information that can give insights into what teachers and parents/guardians might be feeling so they can understand one another. Furthermore, this section also contains information regarding tools and resources that can be utilized by teachers and parents/guardians to help increase their elementary children's engagement. To give an example, technology has allowed virtual field trips to exist, thereby, students can explore many places like museums, planetariums and even national parks from their

gadgets (Tobin, 2020). Teachers can utilize this option for science lessons and parents/guardians can familiarize themselves with this option to help guide their children through the experience.

The fourth section addressed information about how students' backgrounds play an even more crucial role during virtual distance learning compared to traditional face-to-face classrooms. The areas that I focused on for this section were family income and minorities. Students whose families are in poverty might not have the access to the tools and resources needed to complete lessons virtually (Mineo, 2020). This information is important for teachers to know so that they can be flexible and provide more support to those students. Many studies have suggested that minority students are generally a few grade levels behind their white peers (Herald & Smith, 2016). Teachers have to keep an open mind regarding this because even though students might want to be engaged in the lessons, they might not have the tools and resources to do so and as a result, fall behind their more privileged peers. By knowing students' backgrounds, teachers will be able to accommodate and provide instruction based on each student's needs.

Finally, the fifth and the last section talked about the importance of student-centered approach in increasing student engagement during virtual distance learning. This section focused on three different types of student interaction that need to be achieved in order for the student-centered approach to be successful. The three student interactions are; students and course content, students and the instructor, and last but not least, students and peers (Riggs, 2020). This approach creates opportunities for students, teachers, and families to take part in the learning process that is new and meaningful when implemented with high fidelity (Dougherty & Schantz, 2020).

Reflection on Research

Before I started my research, I created a mind map that ended up guiding me through the topics I had to research for my literature review which was written on Chapter Two of this paper. After I finished a draft for my first three chapters and received feedback for those chapters, I realized that there was a section in my literature review that was not informative enough so I decided to re-write that section. I ended up writing and researching on a different topic that I thought would be more relevant to my research question. When I was done finalizing my first three chapters, I felt content and happy that everything flowed together nicely. I felt that the information provided based on my research would be able to help readers gain knowledge regarding elementary student engagement during virtual distance learning. As virtual distance learning was relatively new to the public's eyes, there are always new articles every day that I could always add to the paper. However, in doing so, my paper might be redundant or even veered off into a very broad topic instead of a focused one.

The objective of my research was not only for me to gain knowledge on the topic, but also for me to be able to gather and provide information that could help answer this question; *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* Although each topic in my literature review was relevant and important to answer the research question, there was one topic in particular that was very impactful to elementary students' engagement during virtual distance learning; students' backgrounds. I had a first hand experience about how students' backgrounds affect students' engagement when I was student teaching in a first grade classroom in the Spring of 2020 as school was just starting to close and shift to distance learning. Whether the students would be

able to join the weekly virtual meeting or do the activities on Seesaw (an LMS) really depended on either their parents/guardians' abilities to be present and guide them, or if they had internet connection at home.

A study finds that students of color who are in poverty are less likely to learn new material as they are more likely to review the previous topics (Barnum, 2020). This might cause students to lose interest in learning as they might feel the lessons become redundant and boring. As educators, we have to be aware of the different circumstances that our students might be facing especially during virtual distance learning as we cannot control their learning environments. Educators have to be able to reach out to students and families and learn about their situations to come up with a plan to make sure that students still get high quality learning despite the circumstances.

Reflection on the Professional Development Project

It took me a while to decide on the form of my project as I wanted to make sure that it could be as useful and accessible to my target audiences: teachers and parents/guardians. I was not sure what to choose between professional development or website. Eventually, I decided to choose a website because I felt that it would be the most relevant with the technology today. My website can be accessed through different gadgets such as phones, tablets and computers which makes it very easy to access. The goal of my website is to provide information regarding elementary school students' engagements during virtual distance learning as well as to provide tools and resources to help increase the engagement.

Before creating my website, I first created designs with papers and pencil on how I would like my website to look like. After that, I made sure to research different website builder

platforms such as Wix and Squarespace. I eventually decided to go with Wix as it allowed me to create the website that I envisioned for this project. I originally planned for each subtopic to have its own page and while some of the subtopics have its own page, I decided to combine a few of them on a page titled "tools and resources." The reason being I wanted my website to be as user friendly as possible, and one of the ways to achieve that was by making sure that visitors of the website would be able to find the information they were looking for easily. By grouping relevant information under "tools and resources," visitors would not have to do extra navigation to find the information.

I also decided to make most of the pages not too wordy as I would not want the visitors to leave before they finished reading the information. My website would show up when the keywords "elementary virtual distance learning" is searched on search engines. I designed the website so that visitors could leave comments on my articles. Visitors could also sign up to become a member and get the newsfeed from my website sent to their emails. Moreover, my website has a live chat option where visitors could use the feature and I would get the notification through my phone and respond right away. As much as I wanted to make my website as perfect as possible, there are still limitations on this project. As of right now, my website does not support languages other than English. As I have discussed in my literature review, families who are English Language Learners (ELL) generally need additional support so this is something that I am going to continue working on until I can achieve a multilingual website.

The information presented on my website allows teachers and parents/guardians to gain knowledge and guidance they might need to help increase students' engagement during virtual distance learning. As this website has information from both the teachers' and parents/guardians'

point of views, I'm hoping that they can understand where the other is coming from and as a result, work together in making sure that students are highly engaged and motivated in their lessons.

Future Research

There is still so much to be discovered about virtual distance learning. Although distance learning has existed since the 1700s, it never had a technology as advanced as today that allows things such as virtual field trips and classrooms to happen. As the general public has now been exposed to virtual distance learning, it might be possible that it will stay as a major part in our education system forever. The goal for future research is to observe the long-term impact of virtual distance learning with the ever-evolving technology compared to traditional face-to-face learning. Future research can focus on different groups of students: English Language Learners (ELL), Special Needs (SPED), high income, low income, and many more. For myself as an educator, and future researchers out there, these are the areas that we need to research and find out more in order for us to make sure that students can still get a high quality education no matter the platform. If teachers and parents/guardians understand the factors that affect students' engagement, we will be able to come up with solutions and plans that will ensure that every student receives equal opportunity to learn.

Summary

Chapter Four gave me the opportunity to reflect on my literature review and capstone project. The project started with the question, *How can teachers and parents/guardians of elementary students help increase students' engagement during virtual distance learning?* The process of writing this paper and creating my project have allowed me to find information that

answers this question. There are various different factors that affect student engagement during

virtual distance learning. The overall goal for my capstone is to provide information that can help

teachers and parents/guardians in helping their children to achieve academic and social success

by being engaged in the lessons. Teachers and parents/guardians have their own frustrations

about the current situation. By understanding each other's perspectives and knowing the different

factors that affect engagement, we can all work together to create and provide better learning

experiences for our children. There are unlimited tools and resources that can be utilized to

achieve high engagement from students. My research and project were able to uncover some of

the tools and resources as well as strategies that can be used to help increase elementary

students' engagement. My capstone project helps empower the adults by gaining knowledge

needed in helping their children during virtual distance learning.

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