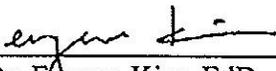


ACCEPTANCE

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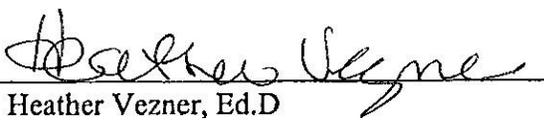


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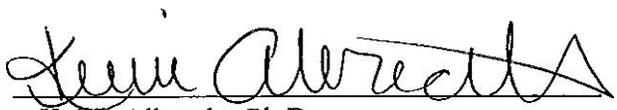


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SCHOOL-WIDE, CLASSROOM, AND HOME ENGAGEMENT FACTORS IN ONLINE
EDUCATION FOR ALL STUDENTS

by

Tessa Janel Samuelsen

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ABSTRACT

Education is ever changing, and the prevalence of online learning is increasing. Schools across the nation are providing more online learning experiences to allow families flexibility and comfort in the learning process, which also allows learning to continue no matter the circumstance. The present research study provides solid evidence of best practices in students' engagement in an online learning environment for students. Online learning has been around for decades, but little research has been done to support the online learning environment. Best practices in online learning will help better educators and prepare students for college and careers. Educators need to know and understand what great teaching looks like in all environments, even in a virtual classroom.

The purpose of this study was to outline factors that increase students' engagement in the online learning environment and how educators and parents can work to help eliminate factors that cause disruptions in the learning process. Research was conducted by collecting survey information from teachers and parents in online learning programs. The teachers' familiarity with technology and use of teaching strategies had the greatest impact of students' engagement in the classroom. Drawing the conclusion that to best engage students both teaching strategies and the teachers' ability to navigate technology are huge factors. The internet speed and home environment, two home elements, also impacted students' engagement. Lastly, platform use, curriculum, and scheduling also impacted students' engagement and therefore students' success.

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CHAPTER 1: INTRODUCTION

Statement of the Problem

Students' engagement is a key factor in students' success and the reason for this research study about online students' engagement. The overall question is, how do educators keep students engaged in an online learning environment? Researchers have provided data that drives educational practice. Over the years, best practices continue to become more specific and data driven. Teachers are seeking out methods and strategies to better educate all students and increase students' engagement. Due to the ever-changing educational system, educators need to know how to best keep students active and engaged, whether in a traditional setting like a brick-and-mortar classroom or a non-traditional setting like a virtual environment.

Best practices have evolved over the years and have had a more significant impact on students' engagement. For example, Hattie (2003) found that teacher quality, allowing students to make mistakes, and making student standards and objectives clear are all data-driven teaching elements that impact students' success and engagement in the classroom. Most of the research on excellence in education and best practices for students' engagement is gathered from traditional classrooms with traditional face-to-face instruction. The data collected in this environment helps teachers become better instructors and students of all ages become better learners. It is time to look at non-traditional teaching environments and the factors that increase students' engagement. The present research study aims to direct educators in the best ways to maintain students' engagement and provide excellent education in a non-traditional setting.

Teaching does not always happen in traditional environments with traditional instruction. Classroom environments have changed over the years from single student desks to group worktables, from flexible seating and now to learning from the comfort of home. Therefore, it is

crucial to look at other elements that play a part in learning and, even more importantly, different learning settings outside the traditional realm. For example, whether good or bad, outside factors often influence the best ways for students to learn. Environmental disasters, a lack of school funding, the spread of infectious diseases are all external factors that can dramatically change the learning environment and, in turn, require different strategies for success. Just recently schools across the globe moved to remote learning due to the COVID-19 pandemic, but this idea of remote learning is not a new concept. For decades, schools have had to move to online learning because of financial restrictions, building limitations, fire, earthquakes, and more.

Today, some educational systems have chosen specifically to provide only online learning so that distractions in the educational setting are minimized. Online education is rapidly spreading in part because of its numerous advantages over traditional teaching; for example, it is ideal for exploring multimedia approaches and it is accessible to participants regardless of their geographical location (Garrison, 2003). With an easy click of a button, students can experience learning from the safaris in Africa to the pyramids in Egypt. Live interviews and virtual field trips transform the learning environment in a way that brings endless possibilities.

The fact that teachers and students are not together in space and time not only liberates both parties, but also means that students must be much more responsible and disciplined about organizing their time and completing course work (Lim et al., 2010). In the art of learning, more responsible and disciplined students have an advantage whether in school or the job force. Responsibility, discipline, and organization are skills needed for success anywhere. For an online learning environment to be successful and for students and teachers to take advantage of educational liberation, proper systems, training, and organization need to take place. With such a fast move to online learning in some situations, like the COVID-19 global pandemic, not all

students and teachers experienced excellent education and high engagement. With an increasing need for online learning, the next opportunity in research is focusing on students' engagement in these situations.

Online learning is not only beneficial to traditional learners or students who are achieving success at grade level, but it is also a great alternative for learners not working at grade level. Online learning increased retention of information and takes less time, meaning the changes the COVID-19 pandemic have caused might be here to stay (Li & Lalani, 2020). Online learning even has advantages for non-traditional learners and those with learning disabilities or special academic, physical, social and/or emotional needs. The technology-rich environment of online learning provides natural opportunities to create accessible environments for students with learning disabilities and attention deficit hyper-activity disorder (Kinash et al., 2004). Online classes offer safety and convenience to learners with physical disabilities or restrictions. Every child learns differently for different reasons and one of the biggest advantages to online learning is to create another opportunity to meet students where they are in their learning journey and allow them the option of receiving a high quality education that has high levels of flexibility.

Online learning environments also offer a more affordable school choice. Many online programs are offered from schools with large tuitions costs for a much more affordable price. San Clemente Christian School, a private school in Orange Country offers their online program using the same curriculum and teachers for half of the price of the traditional classroom setting. They can do this because their overhead costs are much less. This is just one example of how tuitions rates for online programs can be significantly less than for in-person school.

Furthermore, families are choosing this form of learning for safety, travel, and convenience. Even traditional "brick-and-mortar" schools are developing new programs that

focus primarily on remote learning just to meet the needs and preferences of families in the community. Again, San Clemente Christian School, offers their online education format specifically for families who travel. They are now adapting that program and expanding it to create three different levels of learning that allows support for varying needs of families. Dr. Magnuson from San Clemente Christian shared, “It is important for schools who are truly working to better educate students to offer programs that meet online learning needs, whether students are traveling or learning from home for health reasons, families need to have options” (N. Magnuson, personal communication, September 17, 2021). Online learning is growing and it is important to create best practices in this type of environment so that students have the best chance of success and enjoyment in learning. The need to create engaging and supportive online environments is becoming increasingly necessary as student diversity increases on school campuses (Rao et al., 2015).

There are also significant disadvantages with online learning. For example, low quality online learning decreases students’ engagement and causes unneeded stress, distractibility, and social emotional weaknesses. Low quality online instruction can cause social isolation, inconsistent structure, and personal trauma for students’ engagement. Technology glitches and interruptions can add distractions and poor pacing. Program development and execution could hinder online learning opportunities. Online learning has its disadvantages, but it is important to note that working towards minimizing those disadvantages will help both teachers and students working in online education. No matter the advantages or disadvantages, students’ engagement remains important to learning and achievement, and it is likely that teachers will need to find new ways to motivate and engage their students (Toth, 2021). Online instruction that is not done with excellence is important to avoid just as much as poor-quality traditional teaching. If

teachers are not teaching with excellence, for any reason (e.g., poor professional development, lack of time, technology problems) in any environment (e.g., brick-and-mortar classroom, online, hybrid program), students will suffer.

If students are learning from home using technology to experience instruction, what factors lay the groundwork for students' success? How do schools best prepare teachers and students for non-traditional learning? Do elements of students' engagement in education change in an online format from a face-to-face format? This research will explore excellence in education and best practices for engagement in online learning. As schools are forced or elected to offer online learning for students, education needs to better understand online learning engagement practices. The foundations of excellent teaching remain the same (Lemov & Woolway, 2020). It is essential to see the urgency of a positive attitude and the willingness to be flexible. Moreover, it is necessary to get better at what we do now, no matter what circumstances we must face. Good teaching is good teaching, no matter whether it is face-to-face or online (Lemov & Woolway, 2020).

It is predicted that students' engagement is a contributing factor to success in online learning. Through a process of gathering information on the elements of online learning, there are significant factors that greatly increase students' engagement. New insights will allow online programs to become even stronger and create opportunities for growth and professional development to better educate. Schools all around the world are making changes and the elements that affect students' engagement for traditional learning environments will most likely affect learning in a virtual online world as well. Through the data collection process, research will be able to highlight the most important contributing factors to online students' success and outline common elements that lay the groundwork for students' engagement in online learning.

Purpose of the Study

With so many students across the globe moving to online learning, it is essential to ensure that engagement remains high and that standards are not being compromised because the educational environment has changed. This study took a deeper look at what is working in the world of online learning to best educate students and keep them engaged. There are many factors that can impact the learning environment and truly little remains consistent. Not only are teachers battling typical student engagement issues like distractions in the classroom, learning differences, class sizes, and resource availability, they are working continually to provide instant access to information, positive reinforcement, and engaging lessons.

Every student also brings a different set of distractions to the table. Educators are now teaching using technology that allows students to learn from their own homes. Technology devices may be different for every student; for instance, students may be in class on a cell phone or large screen laptop. They may have an updated processing system with high-speed internet or still use dial-up. The location of the learning could also differ and the students may be in a typical classroom learning online with others or at home learning from a laptop in their room or at the kitchen table. The classroom noise level and learning environment is out of the teachers' control. Is there a younger sibling playing in the same room? Are the dogs barking at the mail carrier? So many factors of engagement are now added to the playing field. In such environments, new learning distractions may erode each child's learning foundation.

These outside distractions and elements of surprise impact learning in a great way, but it is also important to keep in mind that online learning adds many new possibilities like virtual field trips around the world, communication with people from across the country, and instant access to resources at the touch of a button. Technology can create opportunities for

experimental learning, project and inquiry-based teaching, hands-on activities, real learning scenarios, group work and collaboration, virtual labs, state-of-the-art software, computer programs, and platform integration (Schleicher, 2015).

The following research outlines common factors or elements that lay the groundwork for students' engagement in online learning. The researcher examined the facilitating conditions that help and/or hinder students' engagement. The purpose of this study was to outline factors that increase students' engagement in the online learning environment and discover how educators and parents can eliminate factors that cause disruptions in learning.

Research Questions

The following set of questions guided the research study:

- What classroom factors promote engagement in online learning for all students?
- What in-home factors contribute to students' engagement in online learning for all students?
- What organizational features of an online learning program create opportunities for students' engagement for all students?

Theoretical Framework

Over the last few decades, students' engagement has come to the forefront of educational research. Researchers provide a path for looking into the elements that promote students' engagement and best practices in the classroom. A combination of theories provides a foundation to examine emotional, behavioral, and cognitive engagement and how it aligns with technology that promotes students' ability to relate, create, and donate in the learning process. Digital technology plays an important part in engagement research; therefore, for this research study, two frameworks will be used in combination. The first will be Fredricks et al.'s (2004) theory of

engagement and Kearsley and Shneiderman's (1998) engagement theory framework for technology-based teaching and learning.

One of the most popular theoretical frameworks is the engagement theory by Fredricks et al. (2004), which separates three types of engagement: cognitive, emotional and behavior (Figure 1). Kearsley and Shneiderman (1998) believed the fundamental idea underlying engagement theory is that students must be meaningfully engaged in learning activities through interaction with others and worthwhile tasks, just like many of the other theorists (Figure 2). They also believed that students' engagement can be enhanced and increased with the proper use of technology as a tool in the classroom. In turn, they used the engagement theory as a conceptual theory for technology-based learning and teaching.

Figure 1

Conceptual Framework of Types and Indicators of Students' Engagement

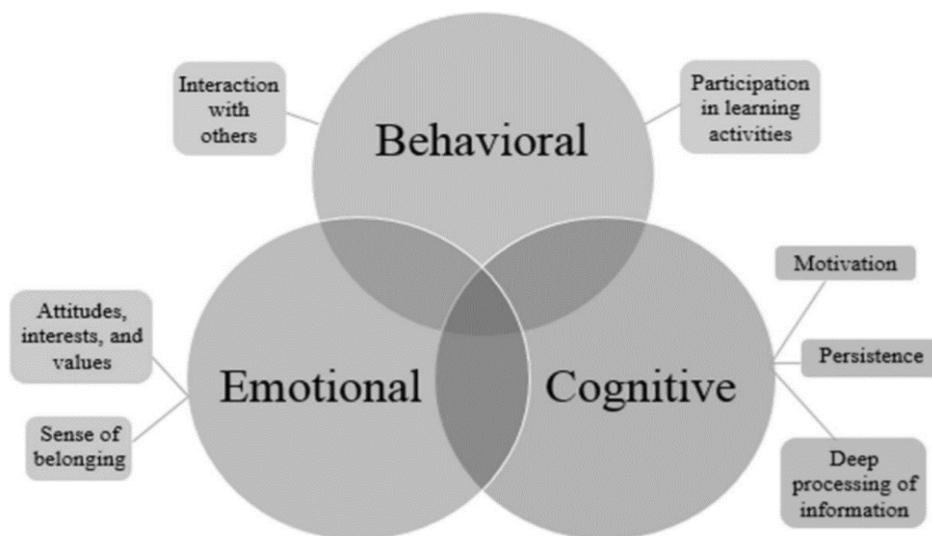
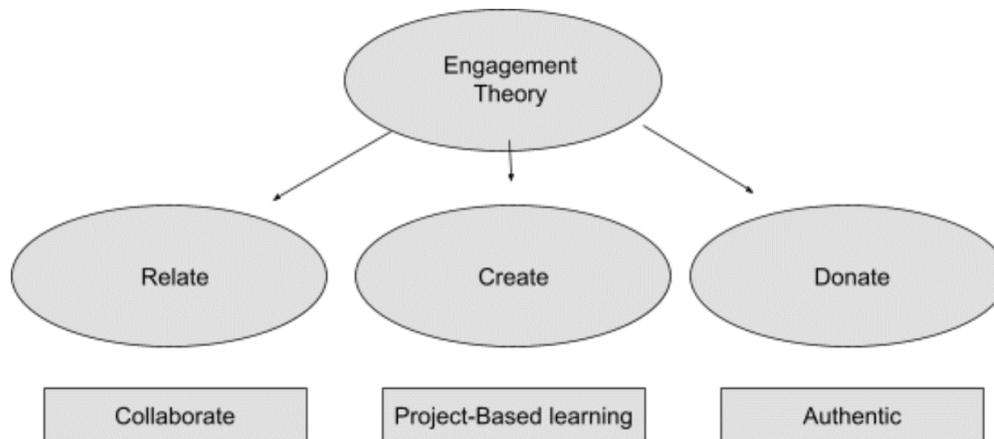


Figure 2

Kearsley and Shneiderman's (1998) Engagement Theory



Additionally, Kahu and Nelson (2018) examined students' engagement at the higher education level and elements that promote success. Kahu and Nelson proposed that individual students' engagement occurs dynamically within an educational interface at the intersection of the student and their characteristics and background, and the institution and its practices.

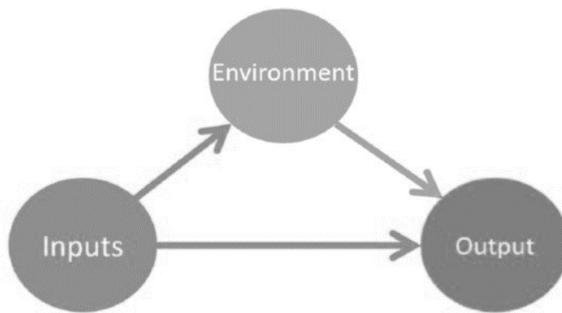
Moreover, Astin's (1984) theory of involvement looks at the environment or engagement and the amount of energy a student puts to the task at hand. The amount students put into learning or how involved they are in the learning process is directly related to the amount they get out of learning and the skills and knowledge they retain.

Astin's (1984) theory was developed for higher education, but some of the foundations of students' involvement or engagement are important for this study and students of all ages (Figure 3). There are three core concepts of Astin's theory: the first is students' "inputs," their individual experiences, beliefs, and background. The second is the "environment," what students do during the learning process or in the learning environment. The third element of the theory is "outcomes," what the student believes, learns, or gains from the learning experience. These three elements are an important part of the student involvement. Astin believed that involvement or

engagement requires both physical and mental energy and that students' involvement directly relates to their academic performance.

Figure 3

Astin's (1984) Student Involvement Theory



Significance of the Study

Schools worldwide need to continually make changes to their educational practices, settings, and instruction strategies. Such changes allow best practices to emerge and education to be flexible and appropriate for all students in all environments. The object of this study is to determine best practices through the evolution of change.

Excellence in education has been researched, studied, and instructional elements have been identified that scientifically and systematically allow for success in the classroom. Students' engagement has a direct connection with academic and career success (Abbot-Chapman et al., 2014; Johnson et al., 2001; Sciarra & Seirup 2008). The purpose of this study is to examine engagement in online education for all students. Online programs of excellence have existed for years. They have been prevalent in higher education settings like colleges and universities. Some universities that top the charts are Grand Canyon University and Purdue University Global. Colleges and universities around the world have committed to providing quality instruction through online platforms.

The exploration of online learning for a greater body of students from all online learning environments is ready for discovery. There are many online K-12 programs of excellence. K12 Academy and Connections ranks high in online elementary programs and Stanford Online and Dwight Global Online ranks top in online high schools. IQAcademy, a charter school from Simi Valley, California, has been around since 2010 and has grown a program from 100 students to 1,500 students and over 100 faculty and staff. Its most recent gain in students and faculty has come in the last few years. Public school programs like California Preparatory Academy from the Capistrano Unified School District in Southern California are growing in number and will continue to do so to meet the needs of students and families across the United States.

Definition of Terms

Understanding the terminology used throughout this research can help in understanding online learning. For this study, the following terms found in the 2021 Encyclopedia Britannica and adapted to fit this research are defined as follows:

Best practices: Existing instructional practices that possess a high level of widely agreed effectiveness on students' success.

Blended learning: A supplemental online learning program in a physical classroom.

Educational reform: Any planned changes in the way a school or school system functions, from teaching methodologies to administrative processes.

Evidence-based teaching: Teaching using only those methods, which have been verified from evidence to be effective in the classroom and produce high success for students.

Higher education: Various types of education given in postsecondary institutions of learning and usually affording, at the end of a course of study, a named degree, diploma, or certificate of higher studies.

Hybrid learning: An educational model where some students attend class in-person, while others join the class virtually from home.

Learning management systems (LMS): Software system used to deliver content and organize student, teacher and school information in an understandable and easy to use application.

Online learning environment: Full time web based classroom with no face-to-face interaction.

Professional development: The continuation of education and career training after a person has entered the workforce to help them develop new skills, stay up to date on current trends, and advance their career.

Student information system (SIS): Software that schools commonly use to organize and manage student and school data.

Students' engagement: The amount of attention, interest, curiosity, and positive emotional connections that students have when they learn in the classroom or on their own.

Traditional classroom: A learning environment that involves a standard curriculum delivered by a teacher in-person.

Traditional instruction: Face-to-face teacher interaction where the teacher is seen as an instructional leader.

Summary

Success in any educational systems is directly linked to engagement. It is now important to expand the research to look at all online learning environments and the elements of instruction and best practices at the school, classroom and home that continue to promote high levels of students' engagement, so that students can remain successful.

CHAPTER 2: REVIEW OF LITERATURE

This research explored excellence in education and best practices for engagement in online learning. In education, students' engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education (Glossary of Education Reform, 2013). When students are engaged and motivated to learn, then content takes on meaning. When content is meaningful, students become more active in the learning process, which solidifies the material and the process and creates learners with more understanding and ability to use what they have learned. The level of students' engagement is essential to the application of both skill and knowledge. Students' engagement is critical to academic growth and understanding whether in a face-to-face classroom or in an online learning environment.

History tells a story of improvement in education. Education reform is that improvement. If we are working to improve education by offer online learning, it is important that the elements of good education, like engagement, remain a top priority.

Education Reform

One of the reasons educational reform has been pursued is to increase students' engagement and make learning more available and instruction more effective. Education reform is the process by which the education system changes. Education reform is often provoked by an economic, social, or societal area of concern. Education reform started centuries ago in 1640 when religious leaders in Colonial America passed a law to ensure that parents were providing education for their children in the home. In the late 1700s, the Commonwealth of Pennsylvania declared that economic conditions would prevent a child from receiving education. Soon to follow were leaders like Horace Mann and John Dewey (1915). Horace Mann worked to reform

the education system by starting public education in his home. These results were seen by the ability for the common middle class to receive an education. John Dewey, a leader in the progressive education reform, led a movement that changed the way students were taught. He introduced to education a pragmatic approach to learning where students experience learning through hands-on opportunities. His central theme was that students learn by doing and this idea is still in full effect and a part of best practices in education today.

Education reform continued to move throughout the United States. During the Reconstruction and the American Revolution, laws were passed by the U.S. Supreme Court in the *Plessy v. Ferguson* case to allow African American children to attend public schools. At this time, schools were still segregated based on race, but soon in the mid-twentieth century, civil rights groups challenged racial segregation and new education reform allowed children to attend schools together no matter their race. Education reform continued through government involvement with movements like the Elementary and Secondary Education Act of 1965 allowing federal aid for postsecondary schools and equal access to quality education for all students no matter students' race or economic status. Even more legislative acts followed allowing changes to the education system that created equality, excellence, and accessibility.

In the 1980s, families of school-aged children started to push for more educational choices, which in turn created opportunities for learning in charter schools, progressive schools, Waldorf schools, and home schools. The move to allow more choice for parents and differentiated learning for students is one of many that play a part in the movement for online learning in the United States. Many different reform models were introduced throughout the next decade, but another strong influencer was Betsy DeVos with the Donald Trump administration who wanted school choice to be in the hands of each individual state and to provide more

resources and opportunities for families to choose where and how children should be educated.

Education reform allows for changes in the system that can lead to better education, more opportunity, and more choice. It is important to understand that no matter what the proposed change is in the world of education, it needs to be planned, executed, and delivered with excellence and support. Implementation of any reform needs to be initiated with buy-in and support. If reform methods are based on what has been laid by our government alone, we will set ourselves up for failure (Shirley & Noble, 2016). Education reform when done correctly produces better instruction and more opportunities for learning.

Teachers are also an essential part of the reform equation. Without their support and buy-in, reforms will fail and students and teachers will suffer in the implementation. Reform takes more than governmental demands—it takes support from all stakeholders. Change requires demanding work, determination, and endurance (Shirley & Noble, 2016). In history, all change has some amount of resistance and it is important to anticipate resistance and prepare for it. Education is an art that requires professionals who are willing to persevere through change, be flexible, and are always ready to improve.

Education continues to change and the change that is rounding the corner this century is the change in technology integration and the importance of virtual learning environments. Recent calls for educational reform stress the need for a prepared 21st-century workforce, which translates into policies, programs, and practices that address technology, science, and career awareness (Bybee & Fuchs, 2006). Technology in education is a huge area of reform. Again, for success in this movement, buy-in and support from all stakeholders will be essential.

Pandemic Push for Another Educational Reform

The COVID-19 pandemic affected schools and countries around the world. This

pandemic altered the lives of families in every corner of the globe, and therefore also affected education systems everywhere. Schools had to move to an online teaching environment through virtual learning. Some schools closed, moved online, or eventually developed a hybrid learning program allowing students the opportunity to gain experience online as well as in person. The pandemic pushed teachers to make the move to online learning in such a rapid fashion that many teachers had to move without proper training and preparation. Teachers of all kinds were forced to move to remote learning so quickly that their support systems were not fully developed. School technology infrastructure was ill-equipped, teachers were not emotionally ready to make the jump, and students were not properly prepared or trained to manage so much independent learning time, which left a heavy burden on all stakeholders.

For teachers, this sudden movement created a whirlwind of new learning. San Clemente Christian School, a small private school in Southern California moved into a new way of teaching and learning in two short days. Students were sent home with devices ranging from iPads to Chromebooks and teachers had to adapt to using the online components of their curriculum and navigating new communication platforms such as Zoom and Google Meets. San Clemente Christian School teachers took to the change but felt pressure to quickly learn the new developments in educational programs like Accelerated Reader, Google Classroom, ScreenCastify, Freckle, MobyMax, and more. Teaching was changing quickly and keeping up meant double the work time in planning. Teachers had to think of new ways to engage learners, which took time, effort, skill, and devotion. For teachers and many around the world, these new implementations required much more than they were mentally, physically, and emotionally able to give. Ill-prepared teachers and students created diminished opportunities for best practices and excellence in education.

Students need to be active and engaged and employ self-advocacy and self-management skills to succeed in the online course environment (Rao et al., 2015). So, teachers not only need to prepare lessons in a new way, but also prepare learners. It was a high order and a big ask for teachers, but many did so with excellence and to their best ability. Unfortunately, the move to online education left teachers feeling burnt out, frustrated, ill-prepared, and unsupported. These are just some of the challenges educators, students, and parents faced during the COVID-19 pandemic (Sangeeta & Tandon, 2020). Engaging students was yet another stumbling block in the adoption of online teaching. Developing content that not only covers the curriculum but also engages learners is the need of the hour.

Parents were also greatly affected by the move to online learning and were left feeling burnt out, frustrated, ill-prepared, and unsupported as they struggled to support their children (Davis et al., 2021). Parents did not have a choice to leave or quit, so burnout among proxy educators may have had an adverse effect on children's academic success. Students who struggled with distance learning experienced elevated mental distress (Davis et al., 2021). Stressful learning environments tend to stifle students' academic abilities, making it imperative to address both students' and parents' emotional needs (Zhang & Sapp, 2008). When students have elevated anxiety, are uncomfortable, or frustrated with their learning environment, it is extremely difficult for them to focus, stay engaged, and learn. Over half (51%) of parents responded that at least one of their children struggled with distance learning (Davis et al., 2021).

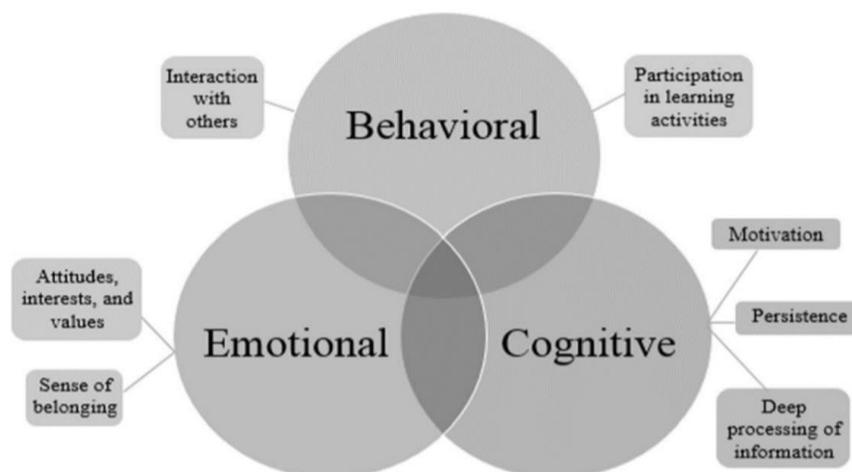
The rapid and stressful move to online learning during the COVID-19 pandemic took its toll on stakeholders across the nation and world, making it imperative to help teachers reform their practices and increase online students' engagement. It is essential that educators, schools, and school administrators take a close look at online learning and students' engagement.

Student Engagement

Fredericks et al. (2004) broke down student engagement further into three main dimensions, behavioral, emotional, and cognitive engagement. Behavioral engagement is when students actively participate in class—they are ready to learn and are involved and contribute to class discussions and group work. Emotional engagement is when the students have a positive approach to learning—they have connected with the material, peers, or the teacher. Students approach learning with optimism and treat the learning experience and people with respect. Cognitive engagement is when a student pays attention in class and asks related and thought-provoking questions. Cognitive engagement includes intrinsic motivation and a determination to succeed. Students who are highly engaged at school are more likely to learn more, earn higher grades, and pursue higher education (Johnson et al., 2001; Sciarra & Seirup, 2008). To create optimal learning, students need to be behaviorally, emotionally, and cognitively engaged. The figure below shows that these three domains of students' engagement work together but are measured and explored differently (Cooper, 2014; Fredricks et al., 2004; Yazzie-Mintz & McCormick, 2012)

Figure 4

Conceptual Framework of Types and Indicators of Students' Engagement



The behavior engagement domain concerns students' conduct in class, participation in school-related activities, and interest in their academic task (Cooper, 2014; Fredricks et al., 2004; Shernoff, 2013; Yazzie-Mintz & McCormick, 2012). More specifically, these observations are gathered by asking if students are following class rules and expectations, participating in discussions, actively involved in school-related activities, seeking out opportunities to complete the task, and are willing to participate in class activities, even if it is challenging. This element of engagement really digs into the level of interest students have in the learning process. This form of engagement is most measured by surveys, personal interviews, and group discussions. Behavioral engagement is only one side of the engagement triangle.

The second dimension of engagement is emotional engagement, which considers students' feelings of belonging: whether students feel connected with, like, trust, or value their teachers and peers. Emotional engagement plays a critical role in students' success (Park et al., 2012) and include unseen factors predicting students' achievement and success. Students need to feel good and need to belong to learning, the experience, and the classroom environment regardless of whether students are experiencing in-person instruction or virtual learning. A growing body of empirical evidence has demonstrated a significant link between academic autonomy and adolescents' emotional engagement in learning (Park et al., 2012). Academic autonomy is the ability for students to make decisions about their learning. A strong sense of belonging and confidence in the classroom allows students to be emotionally engaged in the learning process.

The third side of the engagement triangle is cognitive engagement. To better understand cognitive engagement, one might ask how much effort students are willing to put into academic tasks. When learning gets difficult, are students willing to continue working to accomplish the

goal? Rotgans and Schmidt (2011) discussed one method to increase cognitive engagement in the classroom are to present students with problem-based learning. Problem-based learning creates an opportunity for students to work together to solve a problem by small group collaboration, goal setting, and solution testing. Kozma (2011) emphasized that “for smooth learning, the school curriculum should increasingly be interwoven with ICT (Information Communication Technology), and students should be given opportunities to use advanced technological tools and digital resources for creative and innovative problem solving” (p. 115).

Project-based learning is just one of many ways students can cognitively participate in the learning process and create opportunities for academic achievement. Project-based learning not only enhances students’ motivation to learn, but also it fosters their cognitive engagement. When students are motivated and cognitively engaged, they are more likely to learn and remember (Moursund, 1999). Academic engagement is one of the primary predictors of achievement in school (Park et al, 2012). Combining each of these three dimensions of students’ engagement is essential for students’ success, no matter the type of learning environment.

Online Students’ Engagement

Students’ engagement strategies and instructional methods cannot be limited to traditional classroom experiences. With the upward rise in online education for all students, it is important to make students’ engagement a priority. Online learning is becoming even more prevalent in schools across the United States. Schools are forced—or in some cases voluntarily move—to online platforms. Online learning is becoming more evolved and reaching more students, especially at the elementary level.

Engagement may look different in different learning environments and for different age groups. Educational professionals and even home educators need to be able to recognize and

promote students' engagement at all levels. Kearsley and Shneiderman (1998) described engaged learning as a student involved in active cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation. In addition, students are intrinsically motivated to learn due to the meaningful nature of the learning environment and activities.

Students at any time may be required to learn from home using technology to experience instruction. It is important to provide students with opportunities that promote engagement. What factors in the online learning environment lay the groundwork for students' engagement and ultimately students' success? How do schools best prepare teachers and students for non-traditional learning? How do educators from the traditional classroom or the home classroom know students are engaged? Do factors of students' engagement in education change in an online format from a face-to-face format?

Teaching Online

As schools begin to offer online learning for students, whether by choice or necessity, education needs to better understand online learning engagement practices. The foundations of excellent teaching remain the same over time (Lemov & Woolway, 2020). It is necessary for teachers to improve their practices now, no matter what circumstances they face. Good teaching is good teaching, regardless of whether it occurs face-to-face or online.

Disadvantages of Online Education

Online learning has its advantages and it seems reasonable in an ever-changing world that education does its best to keep up with the changing workforce requirements. Changes will only help students build on skills taught and used in the education system to better land, maintain, and advance in each career. Online learning allows for the use of 21st century learning skills to prepare the youth of today for the world tomorrow. Online learning can also extend learning

opportunities by helping instructors to effectively deal with large cohorts of students, curricular, pedagogical, and administrative issues (Blin & Munro, 2008). In addition, online learning is mentioned for its flexibility (Keengwe & Kidd, 2010) because students can learn remotely. Moreover, the increasing disruptions to traditional on-campus learning can make online learning an optimal choice (Abuhmaid, 2020). Sometimes, traditional brick and mortar schools need to close for many reasons including natural disasters, pandemics, structural building issues, and more. Having an option to move to an online platform allows learning to continue and, in some cases, even sustain for long periods of time, not just temporarily. Preparing for this move is essential to the growth and reform of the American education system.

Using these opportunities to increase students' technology skills is essential for moving and changing with the world. Recent calls for educational reform stress the need for a prepared 21st-century workforce, which translates into policies, programs, and practices that address technology, science, and career awareness (Bybee & Fuchs, 2006). When students learn to use technology to communicate, collaborate, think critically, and challenge themselves in creative ways, they create a firm foundation of skills that will guide them into the workforce and beyond. Learning and innovation skills distinguish learners who are ready to face complex life and work experiences from those who are not. These skills include creativity and innovation, critical thinking and problem solving, communication, and collaboration (Al Kandari & Al Qattan, 2020).

Kearsley and Shneiderman (1998) discussed the importance of the changing role of technology in the classroom. Technological change is vital to creating a successful online learning environment where students are actively engaged in the experience. There is a difference between engagement and activity and it has to do with the mindset that technology

should be used as a communication tool as opposed to a delivery method for media. The engagement theory places importance on providing an authentic and organic setting for learning. When technology is used as an essential delivery method for learning and engagement, it takes on a new role in the classroom. The new role is advantageous to students because it teaches them communication skills that might not be present in the traditional classroom.

Another important advantage to online learning is the connectedness with other learners, learners from all over the world. Online learning has refined classroom collaboration: no longer are students communicating solely with learners at their table, they now can use communication platforms such as Zoom, Google Chat, and Microsoft Teams to collaborate with other students all around the world. When students can communicate and collaborate, they better verbalize their problems, thereby facilitating solutions (Kearsley & Shneiderman, 1998). When students are allowed to work together and encouraged to do so, they are more motivated to learn. Students can work in teams with others from quite diverse backgrounds, which facilitates an understanding of diversity and multiple perspectives. Students can see and hear creative ideas that can add variety, perspective, and connectedness.

Students' engagement in learning is increasingly viewed as an indicator of successful classroom instruction and valued as an outcome of school-improvement activities (Yang et al., 2018). The importance of students' engagement is evident in and out of the online learning environment. Some schools make students' engagement their top priority; for instance, Brightworks, a school in San Francisco focuses on exploration, expression, and exposition. They have made it a priority to take project-based learning and engagement to the next level. Brightworks provides students with opportunities to create student individual portfolios that include unique ways to express learning through project management and written declarations of

intent. Students' engagement is a necessary condition for learning, and students' engagement has an important impact on online learning (Peng, 2017). Leading online schools like Laurel Springs School and Connections Academy encourage self-directed learning, students' engagement, and college and career preparatory classes. Looking at leading schools in online learning it is important to notice the emphasis on students' engagement.

This research will be extremely valuable to online programs across the nation. It will outline common factors or elements that lay the groundwork for students' engagement in the online learning environment. The methodology behind the examination of literature will be the Engagement Theory, a framework for technology-based teaching and learning. Kearsley and Shneiderman (1998) shared "the fundamental idea of the engagement theory is that students must be meaningfully engaged in learning activities through interaction with others and worthwhile tasks" (p. 20). Looking at three important elements of the engagement theory, it is evident that we must come back to the fact that excellence in teaching isn't limited to an environment.

Kearsley and Shneiderman (1998) shared three principles important to the engagement Theory. The first is the ability to relate and collaborate, another vital component in any classroom, whether online or in-person. Collaboration is a technique that applies to any domain (Kearsley & Shneiderman, 1998). Peer collaboration can be a useful tool in a school classroom to help students perform at their best (Swenson & Strough, 2008). The second principle outlines the element of creation, allowing students to create with a purpose, which is often referred to as project-based learning. Here students work to solve a problem, create a solution, and creatively collaborate to produce a new idea, concept, or direction. The last principle is to donate. This principle allows learning to have an outside connection. Again, it creates opportunities for meaning and purpose in working, learning, and collaborating. These three principles will be

discussed in detail, as well as be connected to Fredricks et al.'s (2004) work with the three dimensions of engagement: behavioral, emotional, and cognitive engagement.

Relate

The first important part of engagement in online learning is being able to relate, which is the ability to work together as a team. This is the first corner of the triangular methodology of the engagement theory. The ability to relate includes elements like communication, collaboration, planning, and management and it is the behavioral component of engagement that creates opportunities for a student to take an active role in the learning process. Communication and collaboration are also vital components of 21st century learning skills. In the early years of the 21st century, the term “21st century learning skills” was used to describe four important elements of learning that should exist in every classroom. These learning skills include problem-solving, critical thinking, communication, and collaboration. The latter two terms are discussed here today as an important part of the engagement theory and the online learning process.

Learning and innovation skills distinguish learners ready to face complex life and work experiences from those who are not. These skills include creativity and innovation, critical thinking and problem solving, communication, and collaboration (Al Kandari & Al Qattan, 2020). Online learning is a perfect platform for communication and the opportunity to collaborate. Kearsley and Shneiderman (1998) shared that collaboration increases motivation for students to learn. When students are motivated, they are engaged and learning now has meaning, so students take an active role in the experience. Brightworks School in San Francisco demonstrates the element of relating by having students present their learning goals and accomplishments with expo nights and group assessment opportunities.

Online learning and the use of technology set the stage for all student communication

today and in the future: In a dedicated online environment, children learn how to interact with teachers and peers using virtual activities (Writers, 2020). Online platforms like Google Classroom, Google Meets, Zoom, Blackboard, and more are set up with features that have the capability to form small groups, chat rooms, and message boards. These tools allow and encourage students to share thoughts, ideas, and opinions. Such platforms and concepts carry students into the workforce, allowing them to continue to communicate using technology with people around the world. Platforms and systems like Zoom and Google Meets allow students to communicate their learning, problems, and discoveries with others, which in turn increases communication, discussion, and understanding. Communication is an important factor in collaboration and online learning today.

Another important concept in allowing students to relate to the content is providing the opportunity for working in teams. Teamwork and collaboration allow students the opportunity to hear from different perspectives and builds social-emotional capacity by relating and building relationships through teamwork. This skill is common in the workplace today and ultimately sets students up for successful working environments. Kearsley and Shneiderman (1998) suggested that today's workplace demands proficiency in these skills. Communicating is a key to future success. Many educational technologists focus on developing higher-order thinking skills and allowing students to rehearse for future performances in a technology-rich workforce and civic sphere (Reich et al., 2012). Teamwork and collaboration are vital components of online learning.

Create

The second key component in the engagement theory is “create.” In the world of education, the verb “create” can encompass anything from a work of art to a solution in math. Students of the 21st century need to understand the value of creating and practice it daily

as they learn. Suciu (2014) shared that creativity is active involvement in moving the world forward with novel, original, and valuable outcomes. In the classroom, this allows the teacher to step back and let children explore, discuss, and solve problems together. Creative classrooms are student-centered, where teachers take on the role of “guide by the side” rather than “sage on the stage” (Collard & Looney, 2014).

It is important to allow students to engage in creative discussion, problem-solving, trial and error experiments, and critical thinking. At Connections Academy, students and families work together to create an individual learning path guided by student needs and interests. In a classroom setting, teachers pose a problem and outline ways to brainstorm and communicate ideas. From here, students learn to collaborate with each other working together to create possibilities. Suciu (2014) described this process as group creativity where students have a diversified contribution of synergetic effects: they are stimulated by the learning process, leading to motivation, higher attention, and sustained focus. Through creative group collaboration, students learn from each other.

In this element of the engagement theory, students cognitively add to the learning experience and connect to deep processing of the information. Material, skills, and curriculum become solidified because learners are actively involved in the process. They can learn in a deeper way through perseverance and motivation. Students who conduct their own projects are much more interested than students who are answering sterile textbook problems (Kearsley & Schneiderman, 1998). Students get to define the nature of the project (even if they do not choose the topic), so they have a sense of control over their learning, which is absent in traditional classroom instruction. Allowing students to be creative and play an active role in their own learning creates opportunities for more engagement, a deeper understanding of the material, and

the acquisition of valuable life skills, especially in a digital learning environment.

Tying together creativity and relatability now poses students with an even better opportunity to engage. Teachers who allow students to brainstorm and collaborate are setting the stage for what Miller et al. (2011) defined as open learning, which is where the learning outcome is unknown. In open learning, learners have the flexibility to choose from a variety of options in relation to the time, place, instructional methods, modes of access, and other factors related to learning (Calistan, 2012). Open learning is a methodology that provides students with the best opportunity to be creative and to collaborate. Open learning environments are ideal for creativity and self-directed learning, but concepts of this methodology are not always good for younger students, who have not yet developed the skills needed to be successful with so many options.

Open learning is an open-ended, user-centered environment: a learning environment that accommodates user interests and preferences, encourages inquiry and allows manipulation of the learning environment (Clarebout & Elen, 2008). Learners in this type of environment are challenged and a lot of the learning responsibility falls on the student. Which in turn will allow for high amounts of creativity, if the student can self-monitor, regulate and motivate. Teachers must proceed with caution when producing this type of environment. The goal of open learning is to find the balance between innovation and modernization of education and the improvement of learning in all schools across all nations (Stracke, 2013, which is essential to make the goal sustainable for all stakeholders.

Although open learning environments are great for creativity and collaboration, they need to be created with clear direction and training, at first, especially with younger students. Open learning, when coupled with training and modeling of tools and expectations, can produce high levels of creativity and collaboration. Not only are these two elements an essential part of 21st

century learning, but also a vital part of students' success and engagement.

Ellis (2016) wrote about seven different ways to promote creativity in a digital learning environment. The first is to build in a lot of discussions into the learning experience, which could be break off chat groups or just synchronous learning opportunities within the lesson. In the traditional classroom, teachers use such strategies as turn and chat, discuss with a partner, talk at a table, and get students actively sharing and communicating, which looks a little different in an online environment. In online classes, teachers have to place students in chat rooms or breakout sessions and allow for the time and technology skills to do so. Teachers and instructors can ask higher order thinking questions that challenge learning and push students to discuss and come up with creative answers.

Second, storytelling can be a key element in creative online learning. Students can solve problems by producing stories that help to create solutions (Ellis, 2016). Next is allowing students the opportunity to be the teacher. Reteaching a skill or teaching a new solution both require creativity and help solidify skills and learning. Ellis also mentioned the importance of project-based learning. Yeh (2013) shared that project-based learners are instructed to work with others to solve realistic, curriculum-based, and usually interdisciplinary problems. Students can present a product or solution to a problem, which may strengthen the authenticity of the project and can motivate students to learn.

Project-based learning makes learning visible by creating familiar scenarios, real-world problems and allowing students to discuss solutions based on their experiences, prior knowledge, and ideas. Project-based learning provides a pathway to a more authentic education that prepares students for the 21st century world (Abuhmaid, 2020). Classrooms across the globe are focusing more on project-based learning. Project-based learning is gaining increasing popularity

supported by research studies regarding its effectiveness for teaching and learning (Abuhmaid, 2020). Good teaching is good teaching, whether online or in person (Ellis, 2016). Project-based learning is just one more way to increase students' engagement and success.

Ellis (2016) described elements of creative learning in the online environment, such as creating scenarios with problems that need to be solved. Creativity provides students with a connection to the problem and a way to play a part of the story, gives relevance to the solution, and challenges students to think critically. This also provides students with emotional connections to the people, places or things involved in the problem. Ellis gave examples such as,

One such event might be the current lead poisoning crisis with the water supply in Flint, Michigan. After reading about it, seeing videos about it, and listening to governmental leaders at all levels discuss it, this problem can be approached from many different angles in a variety of courses. A special education course might ask students to determine how to best meet the needs of the children who may suffer mental disabilities as a result of lead poisoning; a political science or law course might look at liability or options for mobilizing a team to solve the problem. A chemistry course might ask students to come up with options for cleaning out the corroded water pipes. (2016, p. 1)

Examples like these provide vast opportunities with connection, thus creating opportunities for critical thinking, creativity, and collaboration in the online learning classroom.

Lastly, Ellis (2016) offered one more example of creativity by providing authentic assessments and fostering critical thinking. Multiple-choice tests are one of the quickest and easiest forms of assessment, but they desperately lack the opportunity for students to be creative or to solve problems in a critical and authentic way. Purposeful, collaborative, and dynamic assessment (International Reading Association [IRA], 2013) provides feedback to both teachers

and students to support continuous growth (Stover et al., 2016). To access a new level of deep learning, there needs to be an equal assessment that allows students to display their thinking and creativity. Assessments could include options for students to display their learning via presenting a report, writing an essay, singing a song, creating an illustration, or directing a video. Dynamic assessments provide valuable information for teachers and a fun and authentic way for students to display their knowledge and understanding of material.

Donate

The last element of the engagement theory introduced by Kearsley and Shneiderman (1998) is “donate.” Kearsley and Shneiderman described this piece of students’ engagement as the emphasis on the value of making useful contributions to the learning process. Here, students contribute to the collaboration effort and connect emotionally with their work, peers, and teacher. Students feel valued and their ideas respected. The emotional engagement may come from collaboration, authenticity of the project, interest level of the student, or intellectual challenge of the material.

Students have more of an opportunity to donate in specific areas of instruction like project-based learning, which allows students to explore real-world issues in a collaborative and creative approach to problem-solving. Students gain knowledge and skills by working for an extended period to investigate and respond to an authentic, engaging, challenging and complex question. Students take a deep interest and emotional connection to the project. In project-based learning, learners work in groups to solve problems that are realistic, curriculum-based, and usually interdisciplinary (Yeh, 2013). At the end of the project, students are required to present a public and discussable product, which may strengthen the authenticity of the project and can motivate students to learn. Thus, project-based learning provides a pathway to a more authentic

education that prepares students for the 21st century world (Abuhmaid, 2020).

Project-based learning also provides opportunities for students to donate their knowledge, ability, and passion for the project at hand by demonstrating the 21st century learning skills such as collaboration, communication, critical thinking, and creativity. Beyond basic subject-area knowledge, students need a set of skills which make teaching and learning more connected to the real world in the new era (Larmer et al., 2015). This connection to the real world offers the opportunity for emotional engagement for students.

When students experience project-based learning, they feel empowered and connected. If teachers allow student learning across the curriculum in ways that provides meaning, students are more connected and they retain valuable skills and problem-solving capabilities. Open learning opportunities not only allows for creativity and collaboration but also allows students to donate in a real and meaningful way. For learners, whether in the traditional classroom or in online learning environments, it is important to be vested in the learning process and feel that their contributions are valuable and needed. Amabile (1990) noted that individuals were more creative in environments that encouraged exploration and independent work and that valued originality-in other words, in settings that encourage open learning.

Online learning environments that engage in open learning opportunities help prepare students to donate in a broader range of importance. Students can serve in several different roles and offer knowledge and learning in multiple areas. For example, a student who is working in a group to solve a water shortage problem for a neighboring city may contribute not only ideas, but leadership, encouragement, and organization to the learning process and/or outcomes. These skills are ones that will be developed and refined in the workplace in the future. In this same learning example, when students are learning online, they can quickly access information and

experts in the area of water and water conservation. This allows students to explore different facets of the problem and experience a more in-depth learning opportunity. Creativity is essential for education and an important part of 21st century learning (Collard & Looney, 2014), which means preparing students for jobs not yet needed and technology not yet developed. With this knowledge, students can be prepared for problems not yet anticipated.

Methodologies for Online Learning

There are many different elements that are proven successful in engaging students in online learning. As discussed, the three dimensions of engagement work together with the engagement theory to produce different methods, platforms, and activities to keep students learning and working. Primarily, students need to know how to interact with technology, see technology as an extension of themselves, demonstrate, collaborate and communicate, among other things. It is essential that elements provide students with the opportunity to relate, create and donate, thus allowing them to best engage in the learning process.

Performance-based orientation, group work, collaborative strategies, clear instructor presence, opportunities for reflection, clear directions, a concentration on ideas rather than facts, and equal opportunities to participate add to students' satisfaction in online classes (Moore, 2002). When students collaborative learn and enjoy group work, clear directions, and opportunities to participate not only increase emotional engagement, but also increase cognitive engagement. Varied assignment formats, flexible options, a highly structured format, and regular interactions with peers and instructors are also important in online education. Students value the organization, instructor interaction, and flexible options (Rao et al., 2015), which provides students an emotional connection with their teachers and peers creating an opportunity for emotional engagement. Many characteristics of good teaching and successful learning revolve

around what creates opportunities for high levels of students' engagement, no matter the age of the student or the environment for learning.

Farrell and Brunton (2020) found five central themes important to engagement in an online learning environment. The first theme of importance in promoting and allowing for engagement is peer community. It is important for students to feel connected to their learning peers, which connects with Fredricks et al.'s (2004) engagement theory and Kearsley and Shneiderman's (1998) engagement theory. Students need to have opportunities to connect, discuss, and learn together. Farrell and Brunton also mentioned the importance of the quality, efficiency, and skill of online teachers, the confidence or self-efficacy of students, and the scheduling and organization of the students' life and how it fits into the course design. These elements all play an important role in students' engagement in online learning.

The goal of this research is to evaluate the methodology that works, to answer what factors of online learning promote high levels of students' engagement? With such a huge amount of learning advantages, it is ideal to create a system, program or experience that maximizes these advantages and plans for the disadvantages.

Summary

Education is continually evolving, becoming more meaningful and efficient every day and online learning is just one more advancement in the world of learning. Online learning allows for endless collaboration, social connection, and authentic learning. Online learning provides unknown opportunities for students to relate, create, and donate to the learning experiences and therefore connect to learning through emotional, behavioral, and cognitive engagement. To promote students' engagement online, learning experiences need to include active learning, students need to be involved and connected to the material, their peers, and the

teacher—hence creating opportunities for students’ engagement and students’ success. Dewey and Dewey (1915) argued for the importance of students’ engagement in the learning process: teachers are not the sole instructors in a classroom setting and personal experience must lead the learning journey. Over 100 years ago, researchers concluded that learners who relate, create, and donate to the process of learning increase students’ engagement, which may seem more difficult online. However, the following research will bring to light ways to create engagement in the learning process in online learning environments for all students.

CHAPTER 3: METHODOLOGY

Researcher's Positionality

Online learning has recently taken a rise in popularity and necessity. Just recently, even the researcher's own family took a new, reluctant interest in online learning. As a transitional Kindergarten through eighth grade private school administrator, the researcher had to implement a brand-new online learning program for students and the researcher's own three children had to participate in two very different online learning experiences.

In 2020, President Donald Trump issued a nation-wide state of emergency due to the COVID-19 pandemic. Workplaces, restaurants, churches, and schools closed to stop the spread of infection. On March 13, 2020, San Clemente Christian School closed its doors because of the pandemic. On Monday, March 16, school was cancelled and teachers came in for a one-day training to prepare for teaching online for the next couple of weeks, or so everyone thought. Those couple of weeks turned into a total of 10 weeks of online teaching. The administrative team put together an entire online learning plan in a weekend. Students continued with learning through live Zoom sessions and teachers recorded instruction, scheduled independent work, and held student-teacher office hours. San Clemente Christian School teachers worked above and beyond to put together a learning experience that stayed true to San Clemente Christians School's tradition of excellence. Although this experience was successful, it did not come without its setbacks, disappointments, and losses.

The researcher's youngest child experienced online learning from San Clemente Christian School, but her two older daughters experienced a very different program from the public high school in our neighborhood. It was much harder for this exceptionally large high school to meet the varying needs of students in such a quick way. They took longer to get classes

running and teachers trained. The quality of education also took a turn for the worse. Students and teachers were not showing up to class, lessons were taught through independent packets with little to no student-teacher interaction. Both girls were successful and their grades remained high; however, the quality of learning decreased and the time lost increased. The researcher's girls shared that they did not see some of their teachers in-person, online, or even in recorded sessions for the rest of the year. The researcher's daughter hated online learning and their attitude towards their school, their teachers, and education in general took a toll on the entire family. Observing two different programs firsthand and talking with other parents, teachers, and administrators about their struggles and program intricacies, the researcher concluded that online learning can be improved and the area with the greatest need was students' engagement.

Research Design and Rationale

Students' engagement is key to education success and academic achievement. It is important in any learning environment that students are engaged. Students with higher school engagement are more likely to achieve higher grades, pursue higher education, and seek higher adult occupational status than those who are less engaged in school (Abbot-Chapman et al., 2014; Johnson et al. 2001; Sciarra & Seirup 2008). The world of education is always adapting so educators can prepare students for the future. Educators are always looking to make teaching more effective and learning more attainable. Now more than ever, education looks different and it is important to seek out best practices in any given learning environment. This research study looks at best practices in online learning and ways to keep engagement high for students.

The purpose of this exploratory/confirmatory mixed methods study was to discover the elements that promote engagement in online learning for all U.S. students through both qualitative and quantitative analysis. At this stage in the research, students' engagement is

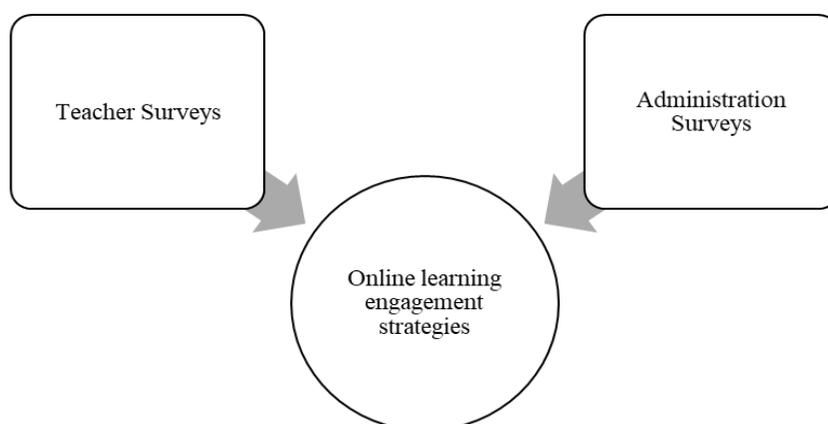
generally defined as the combination of elements that promote engagement and positive student learning experiences. Survey research was conducted and data analyzed to gain powerful practices and to tell a story of the best strategies to engage online learners. This research also contains descriptive case study data through observations. The research includes a collection of data from completed surveys from teachers and administrators about online programmatic and teaching tools. Data were pulled from this experience and guides further research on best engagement strategies used in the online learning environment for all students

Setting and Participants

To get a better understanding of all stakeholders in the online learning process it was important to gather thoughts from program directors or administrators. They add valuable information regarding program design, instructional strategies implementation, and platform use. The same idea and process was used to gather information from teachers who are participating in the instruction of students online or have within the last year. The setting of the data gathering process was online via emails and surveys and no one site was used. Survey data were gathered from schools across the nation via personal contacts to find schools willing to participate.

Figure 5

Research Approach

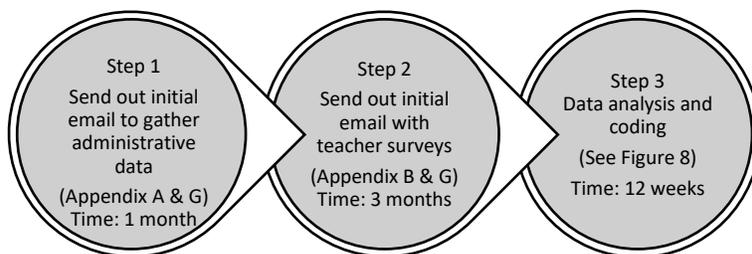


Sample and Sampling

The sampling process started with emailing online learning administrators (Technology Integration Specialists, Principals, Heads of School, Superintendents, Curriculum Directors, etc.) describing the research to be conducted and gathering information about online schooling. Also included in this email and initial communication was the request for recipients to pass the administrative survey onto the fellow online administrators. This process is called snowball surveying, a survey technique where survey participants share the tool and recruit others to help the researcher find more data. After acquiring administrative survey data from 22 participants, the data gathering process moved to teachers. Using snowball surveying, 80 teachers participated. Some of these teachers played dual roles as parent and teacher. See Figure 6 as a step-by-step process and timeline of the information gathering.

Figure 6

Research Process



The following set of questions led to the research in students' engagement in online learning and better described the research design (Table 1).

- What classroom factors promote engagement in online learning for all students?
- What in-home factors contribute to students' engagement in online learning for all

- students?
- What organizational features of an online learning program create opportunities for students' engagement for all students?

Table 1*Research Design*

Research Design			
Research Question	Qualitative	Quantitative	Sample Questions
What classroom factors promote engagement in online learning for all students?	Administrative/Teacher surveys	Interval variable survey questions for the administrators and teachers	What elements of online learning do you feel promote the best students' engagement?
What in-home factors contribute to students' engagement in online learning for all students?	Administrative/Teacher surveys	Interval variable survey questions for the administrators and teachers	How do devices, internet speed and home environment impact student learning?
What organizational features of an online learning program create opportunities for students' engagement for all students?	Administrative/Teacher surveys	Interval variable survey questions for the administration and teachers	What elements of online learning do you feel promote the best students' engagement? What were the purchases in programming or platforms needed to ensure students' engagement?

Instrumentation and Measures

The following information outlines the use of instrumentation of both qualitative and quantitative data collection. There were two different participant groups. These groups were teachers, and administrators. Parents also played an important part in the process as they too represent teachers, especially in the home environment. The literature gathered about instruction practices, online teaching platforms, programs and curriculum, and administrative supports were used to create survey questions. Most items were adapted from existing tools or found in related literature and then modified to fit research for engagement in online learning.

The administrative survey participants were composed of online administrators gathered

from a personal database and then shared by means of snowball sampling. There were 22 total administrators. Online school administrators were given a survey focusing on the organization of an online classroom to gain information about the structure and development of online programs. The survey (Appendix A) was created through Google Forms. The survey included multiple choice questions, five-point Likert scale questions, and a few short answer questions that can all be quickly and easily answered and shared. The following questions were included in the survey:

- What elements of online learning do you feel promote the best students' engagement?
- At what level do the following structural program elements influence successful online learning?

The few open-ended short answer questions include items such as, "what were the purchases in programming or platforms needed to ensure students' engagement?" Questions focused on organizational features of the program, qualifications, and training of the teachers, and the amount of focus on students' engagement.

Questions Focused on Administrative Supports

Survey items that revolve around administrative supports come from Roscorla (2017) and her work on ways education leaders can support teachers. It is important for administrators to allow teachers time and resources to work together, which are two of the elements listed in the survey. Administrators completed the survey answering which of these supports best helped their teachers. In turn, teachers rated which of the same supports they feel best helped them be better educators in an online learning environment. Questions also focused on supports such as collaborative groups, mentoring, and modeling.

Giudo (2018) shared that not all administrative supports are equal in effectiveness. It is important that the administrative survey also took a close look at elements of effectiveness.

Leading teachers in learning and development, or in other words providing professional opportunities to grow, is more effective than providing a high quality and quantity of resources (Guido, 2018). The administrative survey included both elements. Both professional development and providing resources are included on the teacher and administrative survey to gather which are most effective in the online teaching arena.

Questions Focused on Online Teaching Platforms, Programs, and Curriculum

Questions that reference online platforms, programs or curriculum come from Linh et al. (2020) and the Albert Team (2021). Linh et al. reported student ease in transferring to online learning during the 2019 COVID pandemic and highlighted the importance of user-friendly platforms, Wi-Fi connectivity, and student familiarity with technology. Linh and colleagues also gathered demographic information in both the teacher and administrative surveys.

The Albert Team (2021) reviewed common strategies for distant learning, such as students' engagement, connecting with families, and differentiation. Some survey questions parallel such ideas detailing effective online teaching strategies, easy-to-use tips, accessible resources, discussions to increase comprehension, using screen recordings to appropriately pace instruction, and collaborative group work to increase students' engagement. The Albert Team outlined several different strategies for effective online teaching and provides several different resources for programs and applications. These ideas, resources, and strategies are reflected in both the teacher and administrator surveys.

Questions Focused on Instructional Strategies

The survey and interview questions related to online teaching strategies came from the Saskatchewan Department of Education (2009). The questions addressed the value and effectiveness of direct instruction, indirect instruction, interactive instruction, experimental

learning, and independent study.

Direct instruction is a strategy that is used by teachers in a teacher-directed space. This strategy includes factors such as lectures, questioning, explicit teaching, drill, practice demonstrations, and direct reading. Direct instruction is a common method used by teachers particularly in upper elementary grades. It is highly effective but cannot be used as the sole instructional method in an online classroom.

In contrast with direct instruction is indirect instruction, which includes items such as induction, problem-solving, decision-making, inquiry opportunities, and discussions. Indirect instruction is student-centered and the teacher acts as a facilitator in the learning environment. Indirect instruction allows the teacher to frontload students on expectations, procedures, and processes. The students work either independently or in small groups to achieve a goal. Indirect instruction is very beneficial to the student. It allows for the development of 21st century learning skills focusing on critical thinking and problem-solving. One of the disadvantages of indirect instruction is it is time consuming and can quickly change gears and students could become off task and distracted. That is why it is important for the teacher to remain in a facilitator role and encourage students to continue working and to stay on topic.

Interactive instruction is the next form or strategy of instruction in an online classroom. Interactive instruction allows for group work, discussion, sharing, problem-solving, and collaboration. With interactive instruction, the teacher finds themselves observing, listening, and at times interacting with student groups. Again, this is a very student-centered form of instruction and the teacher acts as a facilitator in the learning process. Next is experimental learning, which is inductive, student-centered, and activity focused. Experimental learning incorporates reflection, planning, and analysis. Experimental learning is a great way for students to develop

21st century learning skills and to carry the skills learned through this process into the workforce. Experimental learning is also classified as hands-on learning. Students are usually more motivated and actively participate in such instructional methods.

The last instructional strategy is independent study, an instructional method that purposely provides opportunities for students to work independently, become more self-reliant, and set individualized goals. Independent study provides opportunities for students to analyze problems make decisions on their own and problem solve again using 21st century learning skills. One of the major goals of independent study is to allow students to exercise the skill of becoming self-sufficient and responsible learners. Students learn things like pacing, development, analysis, independence, and autonomy. In an online classroom independent study could look like essay writing, research, homework, performance, or presentation.

Survey Characteristics

Both surveys were piloted and reviewed for quality, accuracy, and feasibility. Most questions were on a Likert scale, multiple choice, or short answer. The questions on both surveys were mirrored to gather the perspective of both the administrator and teacher roles. Teacher survey questions focused on lesson planning, technology tools, students' engagement, and online training. The survey questions for teachers mirrored the administrative questions and include a few different questions like, "On average on your last full day of teaching how many times did you use the following techniques?" There was a list of typical engagement techniques such as group work, games, labs and more. Qualitative data and open-ended questions were gathered to understand teachers' comfort level of teaching online and the expectations of students.

Reliability

In this research on engagement in online learning, many elements evaluated teacher

practice effectiveness in an online learning environment. This exploratory and confirmatory mixed methods study involved gathering information regarding the online learning environment. One of two areas of caution in proceeding with the study is the focus on reliability. Due to the nature of the survey questions, there could be an element of confusion or misunderstanding and without the opportunity to better explain or be available for questioning, survey respondents could just throw out random answers, give-up too easily on questions, or easily get frustrated, which would create an issue with the reliability of the provided survey data.

The second area of concern lies with data collection, the coding process of data, and creating a reliable system of interpreting survey participants open-ended statements. It was essential to choose the correct length and amount of data collected from the surveys and implement the most valid and reliable coding process. Creswell and Poth (2018) mentioned the importance of the intercoder agreement which in the original plan for research would be beneficial; however, this process was not needed due to the lack of observations and interviews. The researcher coded and reported open-ended answers. Creating a way to analyze data and systematic code information was a limitation or area of difficulty, but only needed for open ended survey questions.

Validity

The validity of the study was also a factor in research. Specific limitations such as participant biases and finding and interviewing credible sources can influence validity, so it was essential to be aware of any biases and state them clearly in the research. As an educator and parent deeply involved in the online learning process and creating excellence in this environment, there was ample opportunity for the researcher to add predetermined notes, biases, and opinions. Creswell and Poth (2018) mentioned the importance of making the researcher's

assumptions explicit. It is important to evaluate one's subjectivity. Again, it was essential for this researcher to remain neutral and clearly state all biases upfront. It was also necessary to create an environment where survey participants feel comfortable sharing their opinions.

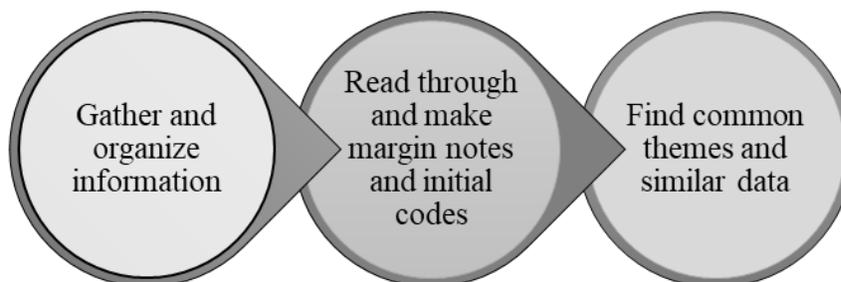
Another important element within the surveying process was finding credible, reliable, and willing participants. Working within a school system and having direct connections with interviewees was helpful, but their participation was also difficult to obtain. The timing of the survey release was over the summer, adding extra difficulty in gathering responses from teachers who were not currently working and administrators who were out of the office. Plus, finding credible and typical research participants may be difficult because if they are volunteering as part of the study, they are already atypical. Finding quality participants with valuable information was difficult. By using snowball sampling process, not all survey responses were valid. A small team was used to navigate through the survey questions, eliminating response that did not answer the questions, did not follow survey requirements, or submitted multiple responses.

Data Collection

Data collection was a dual sided experience which included surveys completed by both administrators and teachers. The first element was surveying administrators. It was essential to gather organizational data that included platform use, lesson planning, school hours, and curriculum. Second, teachers were also surveyed to get their perspectives on students' engagement and participation. The comparison and alignment of teacher and administrator questions were important to the study results.

Data Analysis Procedures

After the researcher collected the data from surveys the minimal amount of qualitative data will be coded and analyzed. The coding process is described in the diagram below:

Figure 7*Coding Process*

Through the gathering and analyzing of survey data, categories of features rose and allowed for greater understanding and categorizing of information. After the process of analyzing the data, coding categories, and plotting values, a core phenomenon will emerge. Through this process, a hypothesis was formed to explain the collective types and thoughts brought through data analysis and look at macro and micro conditions that influence the core phenomenon. In turn, this research was able to highlight some of the most successful ways to produce students' engagement in the online learning environment.

Ethical Issues

There are many challenges with the exploratory/confirmatory mixed methods study, but little to no ethical issues arose. Special attention was paid to each element of the research process and data collection. First, all materials were coded, protected and secured in a password protected electronic device. The names and locations of observations were also coded and secured. Last, no research was conducted or executed until the final approval from the Institutional Review Board, or IRB and the ethics committee at Concordia University Irvine.

There were no expected ethical issues with this research, but that does not mean that the research process was problem free. Again, because the research was an exploratory and

confirmatory mixed methods study, there were challenges. For example, the most impactful challenge for this research was the ability and time to gather enough information to saturate the categories with significant data. Online learning for primary students is new, and the practice is always evolving and changing. Educational professionals did not have enough time to provide information for online learning best practices for students' engagement. Creswell and Poth (2018) noted, "The researcher faces the difficulty of determining when categories are saturated or when the theory is sufficiently detailed" (p. 88).

Summary

Schools worldwide need to continually make changes to their educational practices, settings, and instruction strategies, which allows for best practices to emerge and education to be flexible and appropriate for all students in all environments. Determining best practices for students' engagement through the evolution of change is the objective of this study. Again, exploratory/confirmatory mixed methods study was used to discover the elements that best promoted engagement in online learning for students in schools across the United States.

Excellence in education has been researched, studied, and instructional elements have been identified scientifically and systematically to allow for high levels of students' engagement in the classroom, but this study looked at students' engagement in online education today. Online programs of excellence have existed for years. Even before COVID-19, there was already high growth and adoption in education technology, with global EdTech investments reaching \$18.6 billion and the overall market for online education projected to reach \$350 billion by 2025 (Li & Lalani, 2020).

Virtual learning has been around for over 50 years. Virtual Academy (2021) stated that the first virtual learning experience was offered through a television show. There have been

many advances in not only the presentation of the instruction and the technology used, but also in the teaching strategies used to promote students' engagement. Online learning environments have been prevalent in higher education settings for years. Still, not a lot of researchers have looked at primary and secondary online programs and what elements in such programs allow for the most significant students' engagement. Colleges and universities around the world have committed to providing quality instruction through an online platform. This may look like a carefully designed puzzle of elements such as synchronized sessions, group work, discussion time, graphic organization, communication, and specific learning management systems. This exploratory/confirmatory mixed methods study allowed for a systematic approach to developing given elements that created an optimal environment for learning and engagement in online learning for all students. The study helped begin a work in excellence in online learning especially for the primary and secondary learners.

The world of education is changing and educators from all areas are having to learn new methodologies and strategies to best educate student of all ages. This includes the move to online learning and the need for best practices in students' engagement in this setting. Online learning is not new and adult education institutions have been doing this for decades. The challenge is now moving this learning opportunity to younger grade levels and how to differentiate learning to meet the needs of all students. This research found, highlighted and described how educators can best keep all students in all grade levels engaged in the learning process.

The conclusion of this study is the beginning of more research. Finding excellence in online learning starts with students' engagement. This research provided the basis of what factors produce students' engagement in the online classroom. This research provided initial findings that create a theory about what works best in the online classroom to keep students engaged and

ultimately procedure successful online learning environments.

CHAPTER 4: RESULTS

Quantitative Data Analysis

The idea of online teaching is becoming increasingly more prevalent, which means the data to support best practices in the online teaching world also needs to become increasingly more relevant. More time and attention to finding what works and fixing what does not work is needed to support best practices that encourage engagement in online teaching. Gathering insight from administrators and teachers teaching in this environment is important for future growth and excellence in online education. The following data, both quantitative and qualitative, can be used to guide the development of online programs for all age levels and perfect online teaching strategies to best engage learners.

Data were collected from the months of May through October 2022 from online program administrators and teachers through an email survey created on Google forms. Information includes demographic information, program development and opinions on best practice in the online classroom. Administrators and teachers shared their beliefs on programmatic elements that enhance students' engagement. Information is broken down into elements that pertain directly to the school-wide development of the online learning program and classroom implementation of the initiatives. It is important to look at the administrative role in choosing and implementing school-wide choices that pertain to better online learning as well as the implementation of teacher choices in the classroom setting.

Twenty-two online administrators and 80 online teachers from all over the nation responded to a survey. The following responses were divided by initial survey, teacher and administrator. It is also broken down by elements that are school-wide implemented, classroom

implemented, and home implemented.

Administrators' Data

Table 2 lays out basic demographic information on administrators surveyed. Out of the 22 administrators surveyed, their average years of experience was 6.86 years and a standard deviation of 4.75. Many of the administrators have served in their administrative role for under ten years. Eleven administrators have less than five years of experience. Administrators were also asked to choose from a set number of administrative areas of expertise. Options included areas of curriculum, leadership, technology, culture building and more. Fifty percent of the administrators felt their area of expertise was in staffing, teacher training, building culture, online learning, and leadership. Many administrators had several areas of expertise. Only two administrators listed that one of their areas of expertise was not listed.

Table 2

Years of Administrative Experience and Expertise (n = 22)

	Frequency	Percentage
Years of Administrative Experience		
0-5 years	11	50
6-10 years	6	27
11-15 years	4	18
16-20 years	1	5
Areas of Administrative Expertise		
Building Culture	12	55
Leadership	12	55
Teacher training	11	50
Online Learning	11	50
Staffing	10	45
Curriculum Development	8	36
Student discipline	8	36
Technology	8	36
Special Education	4	18
Other	2	9

An important part of the development of educational programs would be the effectiveness

of individual school-wide elements used to establish and maintain quality instruction and high students' engagement. These school-wide elements included decision making at the administrative level for the program. Administrators were asked if the following structural program elements affect successful online learning (*1 = Completely disagree; 5 = Completely agree*).

Thirteen different elements including platform, programs, internet speed and more were discussed. The following tables represent administrative thoughts on each element's effectiveness again using a Likert scale (*1 = Completely disagree; 5 = Completely agree*). Table 3 lists school-wide elements and the mean score of collective administrative opinions on the effectiveness of each element on students' engagement. Platform is defined as an integrated online service that allows for support and delivery of academic information to parents, teachers and students. Programming includes software that is used in the educational environment by students and teachers. Curriculum is simply a standard based scope and sequence of learning. The survey also asked about the impact of the time of day of learning and that effect on engagement.

Table 3

School-Wide Elements of Online Learning That Promote the Best Student Engagement (n = 22)

	M	STD
Platform	3.9	1.4
Curriculum	3.82	1.01
Programming	3.7	1.13
Scheduling	3.5	0.91
Time of Day	3.14	1.13

Administrators were asked the same of the following classroom-derived elements in terms of their effectiveness related to students' engagement. Teacher expertise was an element listed. Teacher expertise is defined as teachers' ability to teach in an effective and researched

way, meaning the strategies being used have proven to be effective. Teacher technology familiarity was also an element discussed. Teacher technology familiarity was teachers' comfort level with using technology as an instructional tool, asking how well they can navigate an online classroom and its tools. Class size is the number of students in the online classroom and class learning level had to do with the ability and knowledge level of the students being taught. Administrators feel that teacher technology familiarity and teaching strategies had the most effect on students' engagement (Table 4).

Table 4

Classroom Elements of Online Learning That Promote the Best Student Engagement (n = 22)

	M	STD
Teaching Strategies	4.18	1.01
Teacher Technology Familiarity	4.00	0.98
Teacher Expertise	3.95	1.21
Class Learning Level	3.27	0.88
Class Size	3.23	0.75

Administrators were asked about a final three home-derived elements in terms of their effectiveness related to students' engagement (Table 5). Internet speed and connectivity had to do directly with the student's ability to receive visual and auditory data during the lesson. The student's learning environment was an important element in the study, and this was the actual space a student was learning in. Students could have everything from their own classroom office to learning in the backseat of a car. Lastly, device make and model could play a role in students' engagement.

Table 5

Home Elements of Online Learning That Promote the Best Student Engagement (n = 22)

	M	STD
Learning Environment	4.05	0.95

Internet Speed	3.95	1.05
Device Make and Model	3.05	1.05

Administrators provided valuable data on the development of their online learning programs. A series of qualitative questions asked specifically what programs were purchased to help with students' engagement. Questions were categorized and coded into four areas of purchasing including learning management systems like Edutopia, Learning programs like IXL and SeeSaw, assessment programs such as Kahoot and virtual instructional resources or communication platforms like Zoom. Administrators (50%) felt that virtual resources such as Zoom, Class Kick, Edmentum and other hardware items such as specific devices like swivel cameras were necessary and helpful purchase to increase students' engagement.

Table 6

Purchases Made to Ensure Student Engagement (n = 22)

	Frequency	Percentage
Virtual Instructional Resources	11	50
LMS	8	36
Learning Programs	8	36
Assessment Programs	5	23

An important part to running a successful online learning program is monitoring classroom activity and teaching. Administrators were asked how many times they observe teachers in the classroom. Almost half (45%) of the administrators observe teachers at least once a week. Some administrators (5%) only observe online learning once a year. The number of observations and time in the online classroom also depends on the available time, number of administrators and teachers, and scheduling.

Table 7

Frequency of Teacher Observations made by Administrators (n = 22)

	Frequency	Percentage
Once a week	10	45
Once a day	5	23
Once a month	3	14
Once every 2 months	2	9
Once every 3 months	1	5
Once a year	1	5

The next set of survey questions for administrators dealt with their thoughts on the most effective type of instruction used in the online learning environment. Five different types of instruction were included in the survey. Participants were asked to rate on a Likert scale which instructional method had the greatest positive impact on students' engagement in the online classroom. Administrators felt that interactive teaching was the method that had the largest impact on online learning. Interactive teaching method includes classroom activities and experiences like debates, role-playing, simulations, brainstorming, peer learning, discussion, and cooperative learning. Administrators felt that direct instruction and independent teaching method had the least impact on students' engagement. Table 8 shows which methods administrators felt impacted engagement the most.

Table 8

Elements of Online Learning That Promotes the Best Student Engagement (n = 22)

	M	STD
Interactive Teaching Method	4.36	0.85
Experiential Teaching Method	3.86	0.99
Indirect Teaching Method	3.27	1.08
Direct Instruction	3.00	1.48
Independent Teaching Method	2.86	0.99

The surveys were divided into two data groups. The first data group contained information regarding the school-wide implementation of the online program and how both administrators and teachers felt such elements impacted students' engagement. The second group of information dealt directly with the teacher actions and were categorized as classroom data.

Both school-wide and classroom data evaluated the connection between what administrators and teachers felt about online learning and the actions taken.

The following data set looked at school-wide implementations and how administrators felt each element impacted students' engagement through teacher instruction. Administrators were to rate the impact of the following administrative actions on teacher instruction in an online learning environment. Administrators rated each element on a Likert scale (*1 = Completely disagree, 5 = Completely agree*). Out of the eight listed elements administrators felt that providing resources and expert modeling helped teachers the most in an online learning environment.

Table 9

Administrative Actions that Help Teachers Teach (n = 22)

	M	STD
Providing Needed Resources	4.00	1.11
Expert Modeling	3.95	0.84
Providing Constructive Feedback	3.86	1.13
Technology Training	3.68	1.36
Involvement in a Mentoring Program	3.68	0.95
Time to Plan	3.64	1.18
Participating in a Professional Learning Communities	3.55	1.18
Providing Emotional Support	3.32	1.25

The last survey question was optional and answered by 11 of the 22 administrative participants was to share anything else about the development of their online program that might be helpful in the continued engagement of students in this type of learning environment. Many (64%) of the administrators who answered this survey question commented that improvement in program, training or resources is needed. One administrator said, "I am not a huge fan of self-paced classes such as Edmentum. I consistently find our students are most successful when engaged in custom courses with other students, live discussions in said classes, and are

connected to teachers employed by our institution (content area experts) that we know and trust.”

Another administrative survey response mentioned improvements to the infrastructure, “Infrastructure needs to be improved and innovated to improve teachers’ effectiveness and students’ learning outcomes.” Again, many administrators mentioned that improvement was needed in their current learning environment.

Teachers’ Data

Eighty teachers also responded to similar demographic questions including the number of years of online teaching and their specific subject matter taught. The following table shows that most teachers (76%) have taught online for less than five years. Only two teachers (2%) have over 20 years of teaching experience. Most teachers surveyed taught multiple subjects, with the highest number of them teaching math (43%).

Table 10

Approximate Number of Years of Online Teaching (n = 80)

	Number of Teachers	Percentage
0-5	61	76
6-10	11	14
11-15	3	4
16-20	3	4
21-25	2	2

Teachers taught different subject matter. The highest percentage of teachers taught core subjects such as ELA, Math, Science or Social Studies. The highest subject matter represented was 42.5% of the 80 teachers answering Math. Table 11 shows the demographic breakdown of subjects taught.

Table 11

Subjects Taught by Teachers (n = 80)

Number of Teachers

Math	34
Science	29
ELA	27
Social Studies	27
Other	15
Foreign Language	11
Music	8
Art	8
PE	5

As mentioned above, an important part of the development of educational programs would be the effectiveness of individual school-wide elements used to establish and maintain quality instruction and high students' engagement. These school-wide elements included decision making at the administrative level for the program. Teachers were asked if the following structural program elements affect successful online learning (*1 = Completely disagree; 5 = Completely agree*).

Again, 13 different elements including platform, programmatic, internet speed and more were discussed. The following tables represent teacher thoughts on each element's effectiveness. Table 12 lists school-wide elements. Teachers felt that out of the listed school-wide elements, curriculum had the most impact on online learning success.

Table 12

School-Wide Elements of Online Learning That Promote the Best Student Engagement (n = 80)

	M	STD
Curriculum	4.20	0.89
Scheduling	4.11	0.90
Platform	4.03	1.01
Programming	3.96	0.85
Time of Day	3.73	1.01

The teacher survey covered specific elements dealing with classroom programmatic. Table 13 shows that teachers felt that teacher familiarity with technology made the most impact

on successful online learning. This includes the teachers' ability to manipulate the lesson and use tools to best create a fluid and engaging online learning experience.

Table 13

Classroom Elements of Online Learning That Promote the Best Student Engagement (n = 80)

	M	STD
Teacher Technology Familiarity	4.16	0.93
Teacher Expertise	4.04	0.88
Teaching Strategies	4.04	0.93
Class Size	3.86	1.12
Class Learning Level	3.68	1.02

Survey questions included three factors from the home environment. Teachers were asked the significance of how internet speed, device make, and model and the home learning environment impacted the engagement level of learners. Table 14 shows their survey responses.

Table 14

Home Elements of Online Learning That Promote the Best Student Engagement (n = 80)

	M	STD
Internet Speed	4.33	0.87
Learning Environment	4.25	0.93
Device Make and Model	3.39	1.04

Teachers were also asked what administrative actions best helped them teach in the online learning environment. Again, 80 teachers responded on a Likert Scale to the statement (*1 = Completely disagree; 5 = Completely agree*). Teachers felt the elements that best helped them teach were the availability of resources, time to plan and technology training. Teachers felt that providing emotional support and participating in professional learning communities were the least effect administrative derived element in helping them teach.

Table 15

Administrative Actions that Help Teachers Teach (n = 80)

	M	STD
Providing Needed Resources	4.39	0.88
Time to Plan	4.21	0.98
Technology Training	4.06	0.93
Providing Constructive Feedback	3.93	1.02
Expert Modeling	3.71	0.97
Involvement in a Mentoring Program	3.66	1.12
Participating in a Professional Learning Communities	3.58	1.08
Providing Emotional Support	3.53	1.20

The next set of survey questions for teachers dealt with their thoughts on the most effective type of instruction used in the online learning environment. These exact same questions and the responses were listed above for administrators. Five different types of instruction from Saskatchewan Education (2009) was included in the survey. Participants were asked to rate on a Likert scale which instructional method had the greatest positive impact on students' engagement in the online classroom. Teachers felt that experiential teaching and Interactive teaching were the most effect strategies for engagement in online learners. They also felt that direct instruction had the least impact on the engagement of online learners.

Table 16

Elements of Online Learning That Promotes the Best Student Engagement (n = 80)

	M	STD
Experiential Teaching Method	3.93	1.12
Interactive Teaching Method	3.93	1.02
Indirect Teaching Method	3.61	1.05
Independent Teaching Method	3.53	0.98
Direct Instruction	3.41	1.18

Teachers were also asked to count and report the number of times each instructional method was used on their last full day of teaching. Out of the five different teaching strategies surveyed teachers on average used direct instruction as their choice of teaching strategy (Table 17).

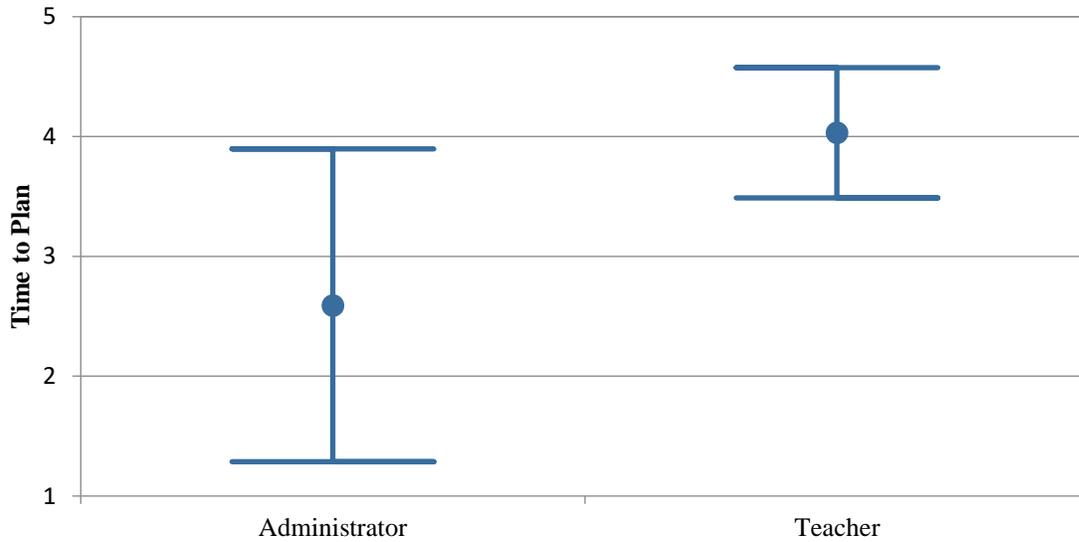
Table 17

Average Times Teaching Elements Were Used on The Last Full Day of Teaching (n = 80)

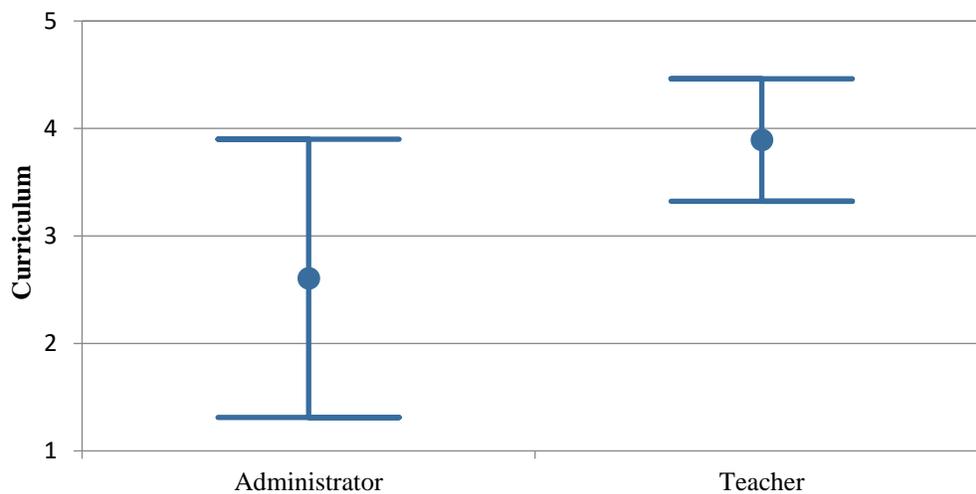
	M	STD
Direct Instruction	3.46	3.17
Indirect Teaching Method	2.99	2.52
Independent Teaching Method	2.44	2.28
Interactive Teaching Method	2.41	2.16
Experiential Teaching Method	1.81	1.95

Interpretive Statistics

One important element in analyzing the data is the correlation between what administrators thought was most effective in helping teachers prepare and keep students engaged and what teachers believed to be the most effective. The following graphs note the correlations, when evident, between teacher and administrative opinions. Each individual graph includes the maximum and minimum rating, as well as the mean. The y-axis on each graph represents the Likert scale rating and the x-axis in the response teacher or administrator.

Figure 7*Impact of Time to Plan*

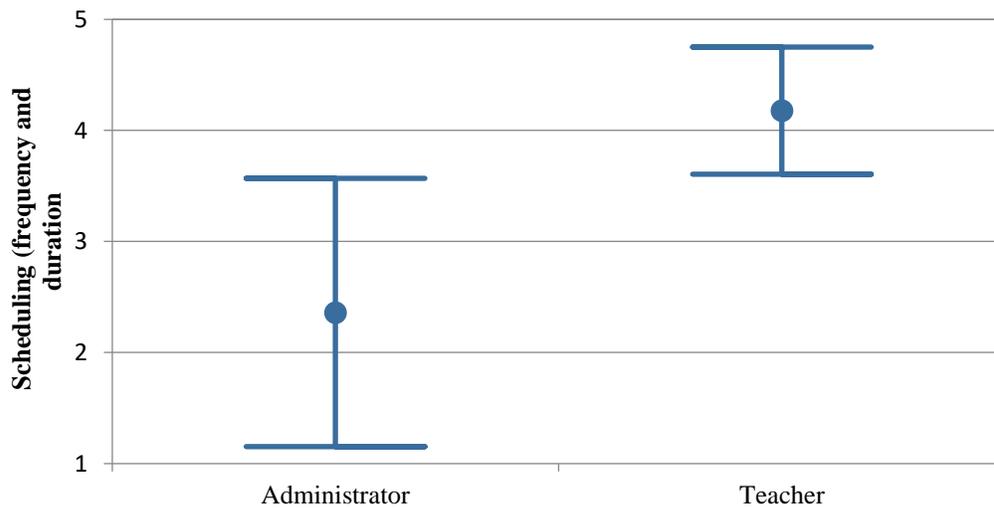
A one-way ANOVA demonstrated that administrators and teachers have a significant difference in beliefs about the impact of time to plan on students' engagement $F(1, 100) = 5.48, p = 0.021$. Teachers ($M = 4.21$) feel more strongly that time to plan is an important part of students' engagement in online learning compared to administrators ($M = 3.64$).

Figure 8*Impact of Curriculum*

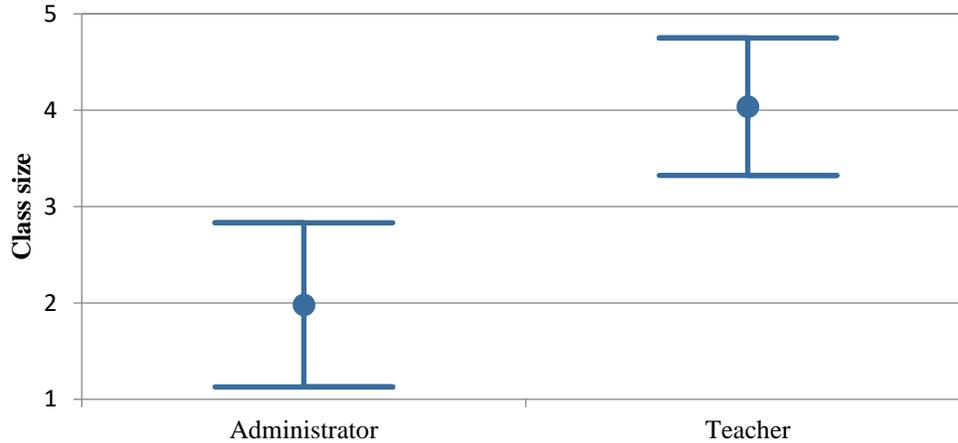
A one-way ANOVA demonstrated that administrators and teachers have a significant difference in beliefs about the impact of the curriculum on students' engagement $F(1, 100) = 4.02, p = 0.048$. Teachers ($M = 4.21$) feel more strongly that curriculum is an important part of students' engagement in online learning compared to administrators ($M = 3.76$).

Figure 9

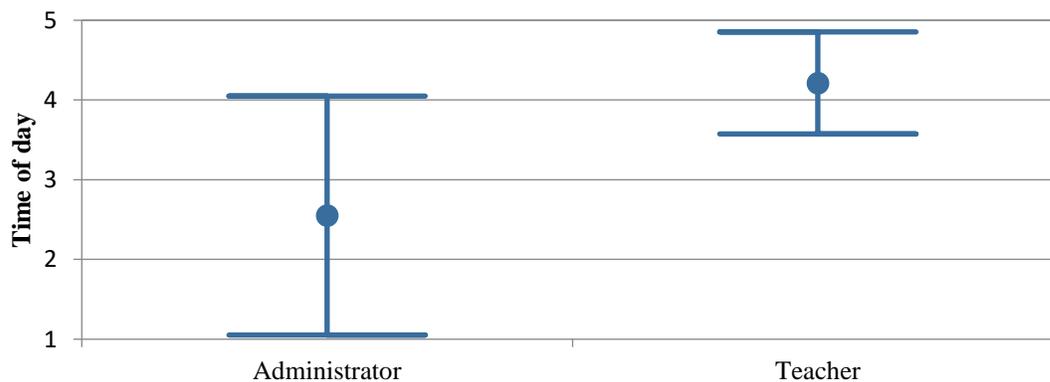
Impact of Scheduling



A one-way ANOVA demonstrated that administrators and teachers have a significant difference in beliefs about the impact of scheduling on students' engagement $F(1, 100) = 8.21, p = 0.01$. Teachers ($M = 4.11$) feel more strongly that scheduling is an important part of students' engagement in online learning compared to administrators ($M = 3.48$).

Figure 10*Impact of Class Size*

A one-way ANOVA demonstrated that administrators and teachers have a significant difference in beliefs about the impact of class size on students' engagement $F(1, 100) = 7.89, p = 0.006$. Teachers ($M = 3.86$) feel more strongly that class size is an important part of students' engagement in online learning compared to administrators ($M = 3.14$).

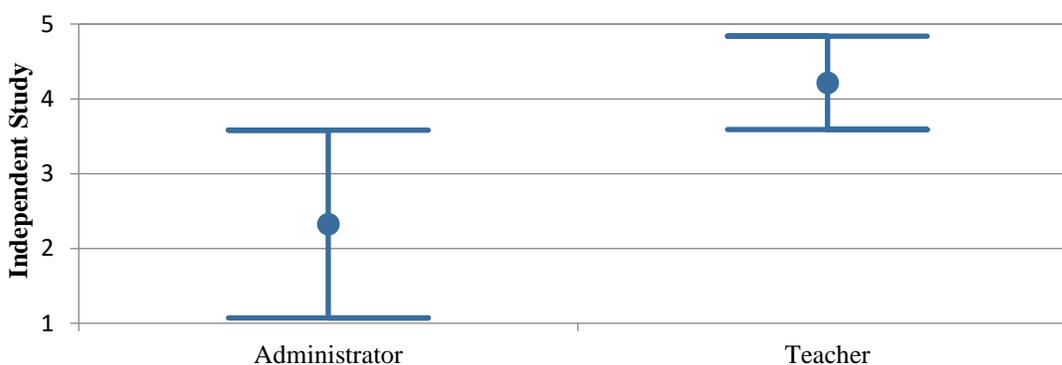
Figure 11*Impact of Time of Day*

A one-way ANOVA demonstrated that administrators and teachers have a significant difference in beliefs about the impact of the time of day on students' engagement $F(1, 100) =$

5.24, $p = 0.02$. Teachers ($M = 3.73$) feel more strongly that time of day is an important part of students' engagement in online learning compared to administrators ($M = 3.14$).

Figure 12

Impact of Teaching Strategy of Independent Study



A one-way ANOVA demonstrated that administrators and teachers have a significant difference in beliefs about the impact of teaching strategy of independent study on students' engagement $F(1, 100) = 7.81, p = 0.006$. Teachers ($M = 3.53$) feel more strongly that independent study is a teaching strategy that increase students' engagement in online learning compared to administrators ($M = 2.86$).

Summary

All data were collected, and specific patterns and conclusions were evident. The administrator and teacher surveys varied in responses. When looking at specific elements in the school, classroom and home administrators felt that specific elements in each category best promote and encourage students' engagement. In the school as a whole, administrators felt that curriculum greatly impacted students' engagement in the online learning environment (Table 3), but only 36% of the administrators felt this was their area of expertise.

Of the administrators surveyed, very few of them felt they had expert knowledge in one of the most important elements of students' engagement in online teaching (Table 4).

Administrators also felt that the technology platform use was an important element in students' engagement and only 36% of administrators felt that they were an expert in that area (Table 3). One conclusion that can be drawn from these two statistics is that administrators are navigating new arenas of learning that they are not familiar with or feel proficient in. If curriculum and technology platform is truly important in students' engagement, then training for administration in that area could add in the increase of students' engagement levels. In turn this could greatly impact student learning.

It is also important to note that administrators felt that teaching strategies were very important in promoting students' engagement (Table 4)). On the Likert scale of 1-5 (*1 = Completely disagree; 5 = Completely agree*) administrators rated teaching strategy influence as a mean score of 4.18, which was the highest score of the elements listed. This leads back to the statement from Lemov and Woolway (2020): good teaching is good teaching, no matter if it is face-to-face or online. Administrators also felt the most important home derived element was the learning environment (Table 5). It was evident with a Likert score scale of 4.05 that the majority of administrators felt the learning environment affects students' engagement.

In gathering information from both teachers and administrators, it is also important to note some significant differences in what each felt is best for students' engagement. When asking teachers and administrators which school-wide elements had the biggest impact on student engagement, administrators rated platform and curriculum high and teachers rated curriculum and scheduling high (Table 3 and Table 12). Teachers also felt that scheduling had an impact on students' engagement (Table 12). As for classroom elements and how administrators and teachers differed administrators felt that teaching strategies had the biggest impact and teachers felt the best classroom element to keep students engaged was teacher technology

familiarity (Table 4 and Table 13). There was also a reported difference in the home elements that impacted students' engagement. Administrators rated the learning environment as the highest home element mentioned and teachers felt internet speed had the biggest impact (Table 5 and Table 14).

One of the most important unanswered questions in online learning is what teaching strategies best engage learners. Again, both teachers and administrators were asked to rate which instructional method had the biggest impact on students' engagement. Administrators felt that the interactive teaching method best kept students engaged, and teachers felt that the best choice was experiential and interactive teaching (Table 8 and Table 16). Interestingly even though teachers felt these two methods allowed for the best chance of high students' engagement, when asked how many times a day they used these methods they were two of least frequent methods used. Teachers reported that direct instruction and indirect teaching was used most used methods averaging 3.46 and 2.99 times a day (Table 16). Experiential and interactive teaching averaged 1.81 and 2.41 times a day.

Lastly, teacher support is an important part of online success. Navigating a fairly new form and method of teaching is going to require a firm partnership and collaborative effort between teachers and administrators. Two survey questions delivered information in regard to support. The first question asked administrators how many times they were able to observe teachers in a given week, month or year. Almost half (10) of the administrators surveyed observed teachers once a week, leaving also short of half of the administrators (7) observed once a month or less (Table 7). Teachers were asked which of seven different actions by administrators best supported them in the classroom. Teachers rated that time to plan, providing resources and providing training in the area of technology use was most helpful in support their

effort in teaching and engaging students. Teachers felt that emotional support from administration was least helpful (Table 15). Administrators also felt that providing needed resources was the best way to support teachers and expert modeling and providing constructive feedback were the best way to support teachers in the online learning environment (Table 9).

The results outline significant similarities in think for administrators and teachers, but it is also important that teachers and administrators differ in way to engage students and best teach in the online learning environment. It is vital that both teachers and administrators work together to best support students in this ever-changing world of learning.

CHAPTER 5: DISCUSSION

Summary of the Study

Students' engagement is important in learning (Abbot-Chapman et al., 2014; Johnson et al. 2001; Sciarra & Seirup 2008). Teachers and administrators have been working for decades to find the best ways to engage students. History proves that over time education has changed, and methods, strategies and resources have changed. Therefore, the best ways to educate students have also changed. Online learning is just one shift in the education of our students and it is impacting learners across the nation. In addition, keeping students engaged behind a computer screen adds an extra challenge for teaching and learning. The purpose of this study was to find elements that truly create engagement in the online classroom and allow for better education for students today and more specifically students today learning in the online arena

This research broke down the thoughts and opinions of educators in both administrative and teacher roles. The research answered the following set of questions about students' engagement in online learning:

- What classroom factors, across various instructional areas, promote engagement in online learning for all students?
- What in-home factors, across various instructional areas, contribute to students' engagement in online learning for all students?
- What organizational features of an online learning program create opportunities for students' engagement for all students?

Breaking down data in the above areas of school-wide, classroom, and home elements that best engage learners allows for specific findings to help guide best practices. To begin, information was gathered to look specifically at certain school-wide elements. Teachers and administrators differed in what they felt had the greatest impact on students' engagement. Data gathered from administrators suggests that school-wide platform has the greatest effect of students' engagement in the online classroom. Platform again is defined as an integrated online service that allows for support and delivery of academic information to parents, teachers, and students. Example platforms mentioned in research are Canvas, Brightspace, Newrow, and Blackboard. Finding the platform that best meets student and school needs is important and survey results suggests an increase in students' engagement.

Teachers also looked at school-wide elements impacting students' engagement and found that platform was important but not as important as curriculum. Teachers felt curriculum was the most important in students' engagement. They also mentioned the importance of scheduling. Scheduling is described as the duration of class periods and the number of classes scheduled within the day. Research gathered suggests that schools need to pay specific attention the choice of platform used in the online teaching environment. One administrator commented from the survey results that schools need to strengthen communication between teachers and students and

promote the development of learning platform. The learning platform cannot be overlooked in students' engagement in the online classroom. Schools also need to take time to research, pilot and select a curriculum that allows for engagement and learning online.

When looking at elements with-in the classroom administrators felt that teaching strategies such as experiential learning, direct instruction, indirect instruction, interactive instruction, and independent study had the greatest impact of students' engagement. When looking a little deeper administrator were able to identify that interactive teaching method was best for students' engagement and learning. Teacher surveys concluded that one of the classroom elements producing high students' engagement was also teaching strategies, but they found that teacher familiarity with technology had the most impact on students' engagement. Teachers report that interactive teaching and experiential teaching lead to the best results in students' engagement. The classroom element most impacting students' engagement is teaching strategies and to be more specific both teachers and administrators feel that interactive instruction is the best way to gain student focus and attention. Interactive instruction is a strategy of instruction in an online classroom that allows for group work, discussion, sharing, problem-solving, and collaboration. With interactive instruction teachers find themselves observing, listening, and at times interacting with student groups, which is a very student-centered form of instruction and the teacher acts as a facilitator in the learning process.

This research discussed in-home elements that also impact students' engagement online. Administrators reported that student learning environment has the greatest impact on engagement. The students' learning environment is the actual space in which a student learns. The learning environment varies from home to home or school to school, and administrators felt this was an important factor. Teachers also felt that students' learning environment was

important, but on a Likert scale of 1-5, teachers felt that internet speed played a heavy role in this area. Researchers also suggest that home environment and internet speed play an important role in the battle for increasing students' engagement. An operative, competent, and resourceful educational system is mandatory to deliver online classes (Sangeeta & Tandon, 2020).

Teacher and administrative training are essential in students' engagement in the online learning environment. Teachers play an important role in engagement, and it is essential to have excellent educators leading the charge (Hattie, 2003). This goes to show that it is important for teachers to become excellence educators they need to be supported, trained, and encouraged. Questions were given to both administrators and teachers on the ways teacher need to be supported. Administrators felt that teachers needed resources and expert modeling to best support them in the classroom. Teachers conquer that they need resources, but on average they also felt allowing for more time to plan was how administrators could best support them.

It is also very important that administrators and school leaders support teachers in the instructional process. Supported teachers feel more capable and adequate to support student and in turn increase students' engagement and learning.

Implications for Practice

The art and process of instruction is changing in the world today. Students of all ages are no longer grouped together in a one room schoolhouse using abacus counters and slate boards as the latest learning resources. More and more students are choosing online opportunities to learn, which means educators need to know how to teach online and most importantly how to engage learners in the online learning environment. This research suggests several different elements that play important roles in students' engagement, but it also found ways that administrators can best support teachers teaching in this new arena.

School-wide administrators and teachers need to partner together to provide an adequate platform for all student learning and teacher instruction and report. Teachers need to engage learners with interactive teaching strategies (e.g., classroom activities and experiences like debates, role-playing, simulations, brainstorming, peer learning, discussion, and cooperative learning) and administrators need to support teachers in this area by providing training and resources. Lastly, the research suggests that the learning environment is another huge factor in students' engagement. Where and how students learning set a foundation for how they interact with lessons and stay engaged. Whether at home or school this research suggests that a child's learning environment is important to engagement and success.

Recommendations for Further Research

In this research on engagement in online learning, many elements focused on teacher practice effectiveness in an online learning environment. This exploratory/confirmatory mixed methods study involved gathering information regarding the online learning environment from teachers and administrators. The research completed and knowledge gained is just the tip of the information iceberg. It would be important to take a more qualitative approach, as well as involve student responses in the research.

One vital future element will be comparing what teachers are doing in the online classroom, what instructional strategies they are using, to how students feel about the strategies. Diving into the thoughts and evaluation of such methods with students. It would be important to ask questions like:

- What actions does your teacher take to best help you learn?
- What elements of the classroom do you feel help you be a better learner?
- What method of teaching helps you focus better and retain more information?

This study looked only at what teachers and administrators did in the classroom to encourage engagement, not what is proven to actual work. More quantitative data could be gathered to answer these questions. Student responses will provide valuable information as to what teaching methods work best for engagement, participation and thorough understanding of content.

Another element of future research could be looking at students' engagement from test scores. This part of research would take information that directly correlates how teachers are teaching to student assessment results. This research step would focus on evaluating students' scores when using interactive, experiential, or indirect methods. Asking questions and correlating data could provide valuable information on what testing strategies best help students not only stay engaged but also produce better test scores. For example, if research could demonstrate that students who learn from teachers using the interactive teaching method score higher on assessments, then teachers across the nation could focus more time and attention to providing learning experience with interactive methods.

The goal of future research would be to have a more thorough understanding of what elements in the classroom allow for the best chance of student learning. As research has already proven students' engagement produces better understanding and content mastery. Educational researchers have identified academic engagement as one of the primary predictors of high achievement in school. Park et al. (2012) concluded that education has changed dramatically, with the distinctive rise of e-learning where teaching is undertaken remotely and on digital platforms. The rise of online learning is here and so educators must change the way they educate to meet learners' needs. Online learning not only creates more opportunities to learn, but in some cases when done correctly it creates better opportunities to learn. Online learning increases

retention of information and takes less time, meaning the changes coronavirus have caused might be here to stay (Li & Lalani, 2020). Educators from both brick and mortar learning environments and online learning environments would benefit from the latest research on best practices in online teaching.

Limitations

The original direction of the study had to be altered for several reasons. First the research was originally designed to gather a triangulation of data from administrators, teachers, and students. Coming off the COVID-19 pandemic, gathering online learners should have been easy. Too much time after the end of the pandemic and the actual gathering of research created a problem in finding online students, teachers, and administrators. Students went back to brick-and-mortar campuses before interviews and observations could take place. Another limitation that impacted the student and changed the actual research question was finding students in grades third through fifth to observe and interview. It was difficult to find online learners and even more difficult to find elementary aged online learners.

The next limitation was the online surveys. Surveys were quickly collected through snowball sampling, but in the process of sharing the survey someone was able to enter several responses that were not valid. These responses came from computer generated email address and provided skewed data and information. Over 100 teachers surveys had to be combed through and eliminated from the study. The administration surveys were not affected.

The most significant limitation was the richness of data. Due to the use of only online surveys data were mostly quantitative. The research did not provide detailed explanations or provide an ability to connect qualitative and quantitative data to tell a story from teachers or students. This element would have greatly increased the significance of the study and provided

more immediate, usable data. Although these shortcomings were significant, they laid a foundation of future studies and a continuation of research.

Delimitations

This study looked at what school-wide, classroom, and home factors promoted engagement in online learning for all students. The questions had to be limited to not only online learners, teachers, and administrators, but online learners within the United States. Venturing into international education systems and finding what works best in schools, classrooms, and homes across the world would be amazing data, but too difficult to achieve with the given time constraints and limited resources.

Conclusions

The purpose of this study was to outline factors that increase students' engagement in the online learning environment and how educators and parents can work to help eliminate factors that cause disruptions in the learning process. The first research question asked what classroom factors promote engagement in online learning for all students. The answer is administrators felt that teaching strategies had the biggest impact and teachers felt the best classroom element to keep students engaged was teacher technology familiarity had the greatest impact. Drawing the conclusion that to best engage student both teaching strategies and the teachers' ability to navigate technology are huge factors, which allows online programs to provide both training and support through resources and time in these areas. Online learning environments should focus these to classroom elements to promote engagement for online learners.

The next research question tackled was what in-home factors contribute to students' engagement in online learning for all students. Administrators rated the learning environment as the highest home element mentioned and teachers felt internet speed had the biggest impact. This

is important to note because when students are at home learning the environmental factors are less controllable and parents as at home facilitators need to be adamant about providing comfortable, quiet, and suitable environments. Teachers rated technology familiarity as their number one area of classroom factors that impact students' engagement and in turn they felt that internet speed and connectivity were important factors.

It is important to have a learning environment that provides support devices to scaffold learners in their knowledge-construction process that way learners can explore and manipulate the environment to solve the problem at hand (Clarebout & Elen, 2008). Teachers see an important connection between the device capability and learner opportunity and engagement. This ties together and it to note that if teachers are using all technology resources well it would be vital for student to have high speed internet and appropriate connectability, otherwise teachers' technology familiarity has no impact.

The last research questions asked was what organizational features of an online learning program create opportunities for students' engagement for all students. When asking teachers and administrators which school-wide elements had the biggest impact on students' engagement, administrators rated platform and curriculum high and teachers rated curriculum and scheduling high. Overall, the conclusion is that all these factors are important but in setting goals for improvement online program leaders need to really evaluate the curriculum, then dive into fine tuning the platform and school-wide scheduling.

Summary

Online learning is an important part of our education system and as the world around us is continually changing it is important to be ready for the next online learning push, as well as the natural education reform that may lead to more online learning options for students and

families. Knaggs et al. (2017) concluded that students whose coursework included online components performed better than those students enrolled in face-to-face only classes. The world is moving to more online learning. The importance of this study is to try to create the most beneficial and engaging online environment for student so that they are enriched and challenged in new and innovative ways. Students who are highly engaged at school are more likely to learn more, earn higher grades, and pursue higher education (Johnson et al., 2001; Sciarra & Seirup 2008). Engagement is important whether online or in person instruction is taking place. This study has allowed for another look at not only the importance of engagement but ways to best engage learners in the online learning environment.

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APPENDICES

Appendix A: Administrative Survey**Online Learning Administration Survey**

Please answer the following questions to help gather valuable data on best practices in an online learning environment for grades three through five.

* Required

1. Email *

2. How many years have you been an online administrator? *

3. What is your administrative area of expertise? (Check all that apply) *

Check all that apply.

- Curriculum Development
- Staffing
- Teacher Training
- Student discipline
- Building Culture
- Online learning
- Technology
- Special Education
- Leadership
- Other

4. What elements of online learning do you feel promote the best student engagement? (1- Low levels of student engagement, 5- High levels of student engagement) *

Mark only one oval per row.

	1 Low engagement	2	3	4	5 High engagement
Direct Instruction (lecture, questioning, reading aloud, explicit teaching and demonstrations)	<input type="radio"/>				
Indirect Instruction (problem-solving, case studies, close activities, reading for meaning, reflective discussion and concept mapping)	<input type="radio"/>				
Experiential Instruction (field trips, simulations, experiments, games, role-playing, reflection, model building or other hands on activities)	<input type="radio"/>				
Interactive Instruction (debates, role-playing, simulations, brainstorming, peer learning, discussion and cooperative learning)	<input type="radio"/>				
Independent Study (reading, goal setting, skill building, essay research and writing, computer-assisted instruction, journals and packaged learning materials)	<input type="radio"/>				

5. At what level do the following structural program elements have an effect on successful online learning? (1=Completely disagree; 5=Completely agree) *

Mark only one oval per row.

	1- Completely disagree	2	3	4	5- Completely agree
Platform (Blackboard, Google, Zoom, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Programming (applications)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet Speed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning environment (home, school, other)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher technology familiarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling (frequency and duration)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching strategies (indirect, direct, Experimental, Interactive, Independant)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Device make and model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class academic level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time of day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Do you feel the following administrative actions help you be the best online teacher you can be? (1=Completely disagree, 5=Completely agree) *

Mark only one oval per row.

	1-Completely disagree	2	3	4	5- Completely agree
Time to Plan	<input type="radio"/>				
Providing Needed Resources	<input type="radio"/>				
Technology Training	<input type="radio"/>				
Participating in a Professional Learning Communities	<input type="radio"/>				
Involvement in a Mentoring Program	<input type="radio"/>				
Expert Modeling	<input type="radio"/>				
Providing Emotional Support	<input type="radio"/>				
Providing Constructive Feedback	<input type="radio"/>				

7. What were the purchases in programming or platforms needed to ensure student engagement? *

8. What elements of online learning do you encourage your teachers to use most *

Mark only one oval.

- Direct Instruction (lecture, questioning, reading aloud, explicit teaching and demonstrations)
- Indirect Instruction (problem-solving, case studies, close activities, reading for meaning, reflective discussion and concept mapping)
- Experiential Instruction (field trips, simulations, experiments, games, role-playing, reflection, model building or other hands on activities)
- Interactive Instruction (debates, role-playing, simulations, brainstorming, peer learning, discussion and cooperative learning)
- Independent Instruction (reading, goal setting, skill building, essay research and writing, computer-assisted instruction, journals and packaged learning materials)
- Other: _____

9. What count best describes how often you observe teachers in the online learning environment? *

Mark only one oval.

- Once a day
- Once a week
- Once a month
- Never
- Other: _____

10. Do the following structural program elements have an effect on successful online learning? (1=Completely disagree; 5=Completely agree) *

Mark only one oval per row.

	1- Completely disagree	2	3	4	5- Completely agree
Platform (Blackboard, Google, Zoom, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Programming (applications)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet Speed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher technology familiarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling (frequency and duration)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Device make and model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class learning level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time of day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Do you feel the following administrative actions help teachers be better?
(1=completely disagree, 5=completely agree) *

Mark only one oval per row.

	1-Completely disagree	2	3	4	5- Completely agree
Time to Plan	<input type="radio"/>				
Providing Needed Resources	<input type="radio"/>				
Technology Training	<input type="radio"/>				
Participating in a Professional Learning Communities	<input type="radio"/>				
Involvement in a Mentoring Program	<input type="radio"/>				
Expert Modeling	<input type="radio"/>				
Providing Emotional Support	<input type="radio"/>				
Providing Constructive Feedback	<input type="radio"/>				

12. Is there anything else you would like to share about the development of your online learning program?

Appendix B: Teacher Survey

Online Learning Teacher Survey

Please answer the following questions to help gather valuable data on best practices in an online learning environment for grades three through five.

* Required

1. Email *

2. Approximately how many years have you been teaching online? *

3. What subjects do you teach? (Check all that apply) *

Check all that apply.

ELA

Math

Science

Social Studies

Music

Art

Physical Education

Foreign Language

Other: _____

4. What elements of online learning do you feel promote the best student engagement? (1- Low levels of student engagement, 5- High levels of student engagement) *

Mark only one oval per row.

	1 Low engagement	2	3	4	5 High engagement
Direct (lecture, questioning, reading aloud, explicit teaching and demonstrations)	<input type="radio"/>				
Indirect (problem-solving, case studies, close activities, reading for meaning, reflective discussion and concept mapping)	<input type="radio"/>				
Experiential (field trips, simulations, experiments, games, role-playing, reflection, model building or other hands on activities)	<input type="radio"/>				
Independent (reading, goal setting, skill building, essay research and writing, computer-assisted instruction, journals and packaged learning materials)	<input type="radio"/>				
Interactive (debates, role-playing, simulations, brainstorming, peer learning, discussion and cooperative learning)	<input type="radio"/>				

5. On your last full day of teaching how many times did you use a Direct Teaching Method (lecture, questioning, explicit teaching and demonstrations)? *

6. On your last full day of teaching how many times did you use an Indirect Teaching Method (problem-solving, case studies, close activities, reading for meaning, reflective discussion and concept mapping)? *

7. On your last full day of teaching how many times did you use an Experiential Teaching Method (field trips, simulations, experiments, games, role-playing, model building)? *

8. On your last full day of teaching how many times did you use an Independent Teaching Method (essay research and writing, computer-assisted instruction, journals and packaged learning materials)? *

9. On your last full day of teaching how many times did you use an Interactive Teaching Method (debates, role-playing, simulations, brainstorming, peer learning, discussion and cooperative learning)? *

10. Do the following structural program elements have an effect on successful online learning? (1=Completely disagree; 5=Completely agree) *

Mark only one oval per row.

	1- Completely disagree	2	3	4	5- Completely agree
Platform (Blackboard, Google, Zoom, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Programming (applications)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet Speed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning environment (home, school, other)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher technology familiarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling (frequency and duration)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching strategies (indirect, direct, Experimental, Interactive, Independant)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Device make and model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class academic level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time of day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. How supported do you feel you are by administration? *

Mark only one oval.

	1	2	3	4	5	
Not supported at all	<input type="radio"/>	Completely supported				

12. Do you feel the following administrative actions help you be the best online teacher you can be? (1=Completely disagree, 5=Completely agree) *

Mark only one oval per row.

	1-Completely disagree	2	3	4	5- Completely agree
Time to Plan	<input type="radio"/>				
Providing Needed Resources	<input type="radio"/>				
Technology Training	<input type="radio"/>				
Participating in a Professional Learning Communities	<input type="radio"/>				
Involvement in a Mentoring Program	<input type="radio"/>				
Expert Modeling	<input type="radio"/>				
Providing Emotional Support	<input type="radio"/>				
Providing Constructive Feedback	<input type="radio"/>				

13. What do you do to regain student attention and increase engagement when you notice students are not engaged? *

14. Is there anything else you would like to share about the development of your online learning program?

Appendix C: Teacher/Administrator Invitation Email

Dear Valued Educator,

My name is Tessa Samuelsen. I am a fellow educator and administrator. I work in southern California in a small private school as a principal for student in grades TK-8. I am also a Doctoral student at Concordia University Irvine, and I am doing research on students' engagement in online learning. This research study will not only guide best practices in online learning for all students, but also offer great teaching strategies for traditional classrooms across the continent. If you decide that you want to be part of this study, please complete the short, attached survey. You will be asked to answer a few questions about your experience in an online learning environment, students' engagement and online teaching resources. Your participation is greatly appreciated and your desire to be a resource to help create great learning in the online arena is honorable. Thank you again.

Mrs. Tessa Samuelsen
Concordia University Irvine Doctoral Program