

Improving Engagement Among Full Time Online Learners

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The COVID-19 pandemic created an unprecedented shift to online learning. For many school systems, online learning came with challenges to student engagement and success. The cohort in this study experienced a failure rate of approximately 30 percent compared to just one percent of their brick-and-mortar peers. This study explores engagement preferences among full-time online learners from the class of 2021 in one suburban high school in Pennsylvania. Participants in this study were selected due to having experienced traditional brick-and-mortar education, synchronous online learning, and asynchronous online learning all within one calendar year. Several best practice models for designing an engaging online learning experience are reviewed and used to develop a mixed-methods study. Participants completed a survey and participated in a focus-group discussion to describe what practices and resources best engage them as full-time online learners. The survey and discussion questions were developed by adapting the domains of the Online Learning Environments Survey and the standards found in the National Quality Standards for Online Teaching. Participant responses revealed a preference for asynchronous access to online lessons and activities. Responses also highlighted the importance of building opportunities for social interaction and online community. The researcher used participant responses and elements from the best practice models reviewed in the literature to make program recommendations that support engagement among full-time online learners.

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It is a wonderful thing to be surrounded by people who make extraordinary effort the standard.

1.0 Introduction

Online education took center stage when schools across the world were forced into remote instruction during the COVID-19 pandemic. Schools increased their online presence and adopted new tools and strategies to engage their learners. While the scope and scale of online learning is unprecedented, the practice has been growing over the past 20 years. In the 2009-2010 school year, the National Center for Education Statistics (2012) reported that 1.8 million students nationwide were enrolled in online course work. That number grew to 4.5 million students in the 2014-2015 school year according to a report from the Evergreen Education Group (2015), a national non-profit that focuses on digital learning. With such a large number of students experiencing online learning, it is essential for public school districts to develop quality instructional models that produce outcomes consistent with their traditional in-person programming or risk losing students to cyber charter programs.

1.1 Introduction to the Problem of Practice

As an alternative to cyber charter schools, Suburban School District offers its own online academy for kindergarten through twelfth grade students who reside in the district. Online coursework is provided through a partnership with vendors who provide the teacher of record and the Pennsylvania standards-based curriculum. The online coursework is asynchronous. The district has assigned a program administrator who oversees enrollment, progress monitoring, and grade reporting. Students in the online academy still have access to district resources such as counseling,

libraries, and extra-curricular activities. High school students who complete the program are subject to district requirements for graduation and receive a Suburban High School diploma.

Students join the online program for a variety of reasons. Prior to the pandemic, most entrance interviews for the program revealed that students enter with the hope that the asynchronous programming will allow a degree of flexibility that traditional schooling doesn't provide. However, this flexibility comes with an increased responsibility to be a more self-directed learner. Additionally, when students are entirely online, it can become difficult to maintain relationships that keep students connected to the school community. This separation may make it less likely for students to take advantage of school-based supports such as academic tutoring and the Student Assistance Program. Although students have access to these programs, the physical separation has been a barrier in getting students to utilize these services.

The need to develop a more robust online program was highlighted by student performance data at the end of the 2020 school year. When the building closed for the COVID-19 pandemic, students who were already in the online academy remained in that program. All in-person students were supported by their regular teachers through asynchronous coursework. For this final grading period of the year, 30 percent (N=10) of the 34 students who finished the year in the online academy failed two or more classes. This data was consistent with the four previous years of data from the online academy. For the over 900 in-person students who were forced online for the fourth quarter, the percentage of students failing two or more classes increased from the historical average of 1.4 percent to 14 percent. Whether students were part of the online academy or forced to change their learning modality due to the pandemic, the evidence is clear that better support for online learners is a need for the district.

1.2 Setting

The system at the focus in this study is a suburban high school located approximately 10 miles outside of the city of Pittsburgh. The district serves a 16 square-mile single municipality attendance zone. The school community is comprised of mostly single-family homes and has some commercial development along the state highway that runs through it. Suburban High School has consistently ranked among the top performing high schools in the state by the *Pittsburgh Business Times* and *U.S. News and World Reports*. On average, more than 90 percent of graduates attend a two- or four-year post-secondary institution.

1.3 Research Questions

The purpose of this study is to define what an effective online program looks like and to determine actionable steps for program improvement. The following questions guided this work:

- 1) What aspects of the online learning environment do recent graduates identify as working best to promote their engagement?
- 2) What strengths and weaknesses do recent graduates identify in our current online learning model and how do they compare to best practice?

1.4 Stakeholders

Improving the quality of the District's online program impacts students, teachers, and administration. Students are the most important stakeholders, as schools exist to support their growth and development. The sharp increase in online learning enrollments created by the pandemic made the struggles of full-time online and hybrid learners more pronounced. The online academy saw an increase in enrollment from 41 students in the Spring of 2020 to a total enrollment of over 100 in the Spring of 2021. The District saw a decline in online and hybrid enrollments in the 2021-2022 school year. Despite many students returning to the physical classroom, the mass exposure to online learning may increase future enrollment numbers, as some students came to prefer this model. Teachers and administrators must learn from the challenges and successes of remote learning to create stronger online programs.

Some students and families who were not confident of the District's online learning plan to use vendor-provided instructional services joined a handful of Suburban families in cyber charter programs. Even prior to the pandemic, Pennsylvania had the highest population of K-12 students enrolled in full-time online schools. During the 2017-2018 school year, 2.09 percent of the commonwealth's K-12 population was enrolled in online charter schools (Evergreen, 2019). In the case of Suburban School District, 37 students in grades 6 through 12 were attending out-of-district cyber charter schools during the 2020-2021 school year. A more robust online program would help the District offer charter school families more options in the district.

A better developed online program impacts the district's teachers, who have expressed concerns over students taking coursework not aligned to the in-person high school curriculum. When students transition back to in-person learning from the online academy, teachers find that they are not academically prepared to re-enter the different curriculum. In addition to full-time

students, each summer over 100 Suburban High School students take summer enrichment courses through the same vendor as the online academy. Although the courses are accredited and supported by a Pennsylvania certified teacher, they have been criticized for not being aligned to the District's curriculum-

District administration is working address these issues of alignment. Currently, Suburban High School offers one senior-level online course that is overseen by a Suburban teacher. For the past three years, this class has been offered by the teacher using a vendor course from the online academy. In the 2021-2022 school year, the class has been transitioned to Canvas, the learning management system used by the district, in order to utilize teacher- and district-created resources and materials. The goal of this transition is to more closely align the online course with its in-person equivalent. Student and teacher feedback from this pilot course along with a learning management system (LMS) pilot at the secondary level will be studied by administration to determine if increasing the scale of this practice is possible. District administration is also working with the teachers' association to explore district teachers becoming involved in the online academy. The researcher hopes that data from this study will help district leaders develop a path that helps both students and teachers find success.

Table 1. Pre- and Post-Pandemic Online Enrollments by Type

	17-18 School Year	18-19 School Year	19-20 School Year	20-21 School Year (Pandemic Protocols in Place)
Full Time In-District Online Academy Students 6-12	31	49	41	183
Online Enrichment Enrollments 6-12	Data Not Available	Data Not Available	103	51
Full-Time Out of District Cyber Charter School Enrollments 6-12	20	19	22	37

1.5 Definition of Terms

The global shift to online learning introduced students, families, and educators to a variety of new educational terms and models. Nomenclature may vary based upon locality, instructional model, or researchers. In order to maintain consistency and clarity throughout the study, the following terms are explained below.

Asynchronous Instruction: Instructional practices and activities that can be accessed without a set time.

Blended/Hybrid Learning: Blended or hybrid learning is a combination of online learning with in-person instruction. During the 2020-2021 school year, students in Suburban Township School District, who were not members of the full-time online academy, were engaged in this instructional model.

Brick and Mortar: The physical school environment where in-person instruction takes place.

Cyber Charter School: Public online schools that operate independently of the local school district but under the supervision of the Pennsylvania Department of Education.

Online Academy: The district-supported, fully online option for full-time students.

Remote Learning: The instructional model in which all students learned from home during the COVID-19 pandemic closure. This model included a mix of synchronous and asynchronous learning experiences.

Synchronous Instruction: Learning activities that require face-to-face or virtual check-ins with a live educator. Examples of this include video conferencing or participating in a class livestream.

1.6 Overview of Research Methodology

The goal of this study is to have past students evaluate the online academy's current structures and pedagogical practices in order to determine how to best engage online students. From this data, the researcher aims to identify which aspects of the program foster student engagement and which elements should be targeted for improvement. The cohort invited for the qualitative survey and focus group were recent graduates from the class of 2021. These recent graduates offer a unique perspective of the online program because they have experienced brick-and-mortar learning, blended/hybrid instruction, and asynchronous instruction. The experiences of this cohort allow them to provide feedback on the District's entire range of online course programming. Students in this cohort participated in a wide range of academic courses in the online academy. Their experiences include core academic classes, Advanced Placement offerings, and career focused electives delivered through the online academy.

The quantitative survey was administered using Qualtrics. Participants were contacted using information kept on file to assist with post-graduation planning and reporting. Participants used a Likert scale to evaluate each statement. The survey was derived from the Online Learning Environment Survey originally developed by Pearson and Trinidad (2005) and included statements related to communication, pedagogy, and technical aspects of the students' online learning experience. Survey data was analyzed to determine the mean response for each statement. Statements are ranked based upon lowest satisfaction under each of the adapted subcategories found in the Online Learning Environments Survey. Areas for improvement were identified by comparing these low satisfaction areas to best practices identified in the review of literature.

Qualitative data was gathered using a focus group discussion. Focus group participants were invited from the participants who had taken the survey. The focus group protocol was

designed to foster conversation around student preferences and experiences with the online academy. Scripted questions for the focus group were aligned to the two research questions. Additionally, the focus group questions were coded to align to the domains and subdomains of the quantitative survey. Participant responses were transcribed and coded as complimentary data for the survey.

2.0 Literature Review

The purpose of this chapter is to review the scholarly literature on the topic of engaging online learners. The researcher entered this review of literature with two guiding questions:

- 1) What aspects of the online learning environment to recent graduates identify as working best to promote their engagement?
- 2) What strengths and weaknesses do recent graduates identify in our current online learning model and how do they compare to best practice?

The pursuit of answering these questions led the researcher to explore current trends in online education. The researcher explored national trends regarding student enrollment and state policy toward online learning. Enrollment trends and practices in neighboring states were examined to draw a comparison in approaches among states with similar student populations in terms of size and demographic makeup. This chapter also explores three models that seek to explain practices that foster engagement among online learners. These models represent nearly three decades of evolving practices and understandings in the field of online education. Finally, this chapter includes a discussion of two contemporary organizations working to provide resources and standards that support quality online learning. Ideas and concepts from this chapter were used to design the research study outlined in chapter three.

2.1 Trends

2.1.1 National Trends

Remote learning was a new experience for students around the globe during the 2020-2021 school year; however, distance learning has been an option since the 1800s (Simonson, Smaldino, Albright, & Zvacek, 2019). As new technologies developed, correspondence courses evolved from pencil-and-paper-based learning to radio- and satellite-based systems. These technologies allowed teachers to have an audio and, later, video presence for students learning outside of the classroom. With the introduction of the internet, distance learners gained the ability to complete work online and interface more closely with their instructors (Dabbagh, Marra, & Howland, 2018). Innovations such as video conferencing have allowed for the possibility of two-way communication between teacher and student.

The tools and technology available to online learners continues to evolve. Online learning has been referred to as e-learning, cyber learning, virtual instruction, and several other names intended to signify that the experience will take place in a digital setting. Although these terms have been used interchangeably over the years, organizations such as the Online Learning Consortium (OLC) are working to create a common vocabulary of terms for educators, researchers, and policy makers (Dabbagh, Marra, & Howland, 2018). Having a common set of terms is important in fostering a national conversation around best practices and regulations surrounding online learning. A 2015 study of state statutes regarding online learning found that terms can vary from state to state while referring to similar models of online instruction (Stedrak & Rose, 2015).

Terms vary from state to state, and so do approaches and policies. As of 2019, 39 states allow fully virtual or blended learning schools. In the states that allow fully online schooling,

schools can be operated by districts, charter schools, or education management organizations. While a growing number of school districts are launching their own online schools, for-profit education management organizations operate the largest online schools (Molnar, Miron, Elgeberi, Barbour, Huerte, Shafer, & Rice, 2019). A 2019 report by the National Education Policy Center found that only 21 percent of full-time online students were being served by a program operated by their school district. The same report found that those online schools operated by school districts were more likely to be rated as “acceptable” by their state rating agencies compared to those operated by charters or education management organizations. While this data is promising for districts seeking support to start their own online programs, understanding the factors that lead to the performance gap between district-supported and charter and private online schools is important. Just one year after this study was published, school districts across the nation would find themselves needing to adapt quickly to provide fully online content to support their students through the pandemic. As we become further removed from the mass school closures of the 2020-2021 school years, researchers will find themselves with unprecedented amounts of data regarding student performance in fully online environments.

2.1.2 State Trends

The United States Constitution delegates responsibility for education to the states. This delegation of responsibility to 50 different legislative bodies, each with its own department of education, means that there are sure to be differences in goals and policies. A recent literature review conducted by Singh and Thurman (2019) found 46 different definitions of online learning over 30 years of research on the topic. Their work tracked the evolution of synonyms for online learning and how these terms evolved with technological advances. For the purpose of this study,

I will use the term “online learning” to encompass the terms “cyber,” “digital,” and “virtual” to create consistency.

Just as terms vary from state to state, so do regulations. States such as Florida and Michigan made participation in an online course part of their graduation requirements as early as 2006 (Stedrak & Rose, 2015). K-12 public schools in these states must adopt online learning models or partner with state-supported online learning providers to meet this requirement. Florida supports its online learning requirement by offering free courses to resident students through the Florida Virtual School. According to the Florida Virtual School’s 2018 annual report, over 200,000 students participated in at least one online course through their program. The virtual school claimed over 6,000 full-time students for the same year.

Pennsylvania currently does not mandate online coursework as part of its graduation requirements. Rather than offer a state virtual school like the Florida Virtual School, Pennsylvania entrusts local districts to develop or contract their own online course offerings. In 2002, cyber charter schools were authorized to provide full-time online classes to Pennsylvania students (Kotok & Kryst, 2017). Cyber charter schools’ abilities to draw students from across the state had the largest negative impact on rural school enrollments and budgets (Mann, Kotok, Frankenberg, Fuller, & Schaftt, 2016). Districts with small tax bases are most impacted by the costs charged by cyber charter schools for their students’ enrollment (DeJarnatt, 2013). This situation creates a challenge for districts who must offer online options or face losing students to cyber charter schools.

In a review of the neighboring New York State Department of Education’s website, resources regarding full-time online and blended learning are provided. Although New York does not offer a virtual academy similar to Florida’s model, the Department of Education offers links

to online providers accredited by the state. Local school districts are able to partner with these online vendors or provide their own online program. Parents are able to access these full-time courses through private contracting. For schools that provide their own full-time online learning programs, the New York State Department of Education provides a best practices framework for program design. This framework is adapted from the Middle States Association of Colleges and Schools framework for effective instruction (New York State Department of Education, 2021).

Despite well-developed resources for online learning in New York, the states of Ohio, Pennsylvania, and California are the three states with the highest online learning enrollments (Gill et al., 2015). Because Ohio is a regional neighbor of Pennsylvania and is similar in demographics, it provides a good comparison for analyzing trends and policies. Both states had approximately 2 percent of their student populations enrolled in online learning in 2012 and have shown growth in the years that followed (Ahn, 2016). The Pennsylvania Charter Act of 1997 authorized the creation of charter schools in the state. This act was amended in 2002 to include cyber charter schools. Similarly, Ohio first allowed online schools to apply for charters in 2003. Both states only grant charters to non-profit organizations and public entities, but they allow charter schools to be managed by for-profit education management organizations (Nespor, 2019). The relatively high enrollment numbers in Pennsylvania and Ohio have created a marketplace in each state for online learners.

A study of Pennsylvania cyber charter enrollment from 2002 to 2014 found that enrollments began to drop in homes with higher levels of parental educational attainment, but then increased again (Mann & Baker, 2014). The lack of a state-supported online learning model, along with competition from cyber charter schools, forced Pennsylvania school districts to develop their own online education strategy or face losing students and funding. Just prior to the COVID-19

pandemic, the passage of Act 64 in 2019 allowed Flexible Instruction Days, expanding temporary online learning options for Pennsylvania school districts. Districts could apply to utilize up to five days per year in the event that traditional learning could not occur.

2.1.3 Summary

Online learning policies and programs vary state to state. Enrollment in fully online programs and cyber charter schools has steadily risen over the past two decades. Pennsylvania, Ohio, and California are the states with the three highest enrollments in full-time online learners. This trend was exacerbated by the COVID-19 pandemic beginning in March of 2020. The pandemic forced states and their districts to place a great emphasis in fully online and hybrid learning. National educational management companies provide fully online content to school districts, charter schools, and individual families. With a growing demand for fully online learning, state departments of education and their constituent districts have a responsibility to provide quality educational experiences through this modality.

2.2 Best Practice Models for Promoting Student Engagement

2.2.1 Defining Engagement in an Online Setting

In the current technological landscape, online learning is no longer just about curating content online. New technology tools allow greater opportunities for student engagement. A review of recent literature shows a shift in online learning research to focus on learner engagement.

For the purpose of this review, engagement is defined as the student's active interactions with their online instructor, their peers, and learning activities that support learning new skills and content. Just as in a brick-and-mortar classroom, effective online engagement includes the tools and opportunities to support engagement between the student and teacher, the student and course content, and the student and peers (Bernard, et al. 2009). Banna, Lin, Stewart, and Fialkowski (2015) asserted that effective student engagement helps to decrease learner isolation and dropout, and to increase retention, and graduation rates. In online education, engagement is evidence of students' effort and their ability to create their own knowledge (Meyer, 2014).

2.2.2 Moore's Engagement Framework

In the early years of online learning, Moore (1993) asserted three types of interactions present in effective online courses. These are: (1) learner to instructor, (2) learner to learner, and (3) learner to content. Bolliger and Martin (2018) used this framework as the basis for their study of engagement strategies. They confirmed the importance of all three interaction types being present in an effective online learning program, with particular emphasis on the importance of meaningful learner to instructor interactions. Although this study focused on university students, the conceptual framework and technology tools described are present in current secondary education settings.

Learner to learner interaction is a valuable component of online learning that fosters student engagement (Bolliger and & Martin, 2018). Peer interaction is one way to help online students feel connected to the learning environment. Activities such as discussion boards, group chats, and peer assessment have been found to foster student engagement (Banna et al., 2015). Video conferencing, both live and recorded through applications such as Zoom and FlipGrid, have

allowed for greater levels of learner-to-learner interaction. Engaging students who live in the era of social media means utilizing educational technology that simulates experiences and interactions with which learners are familiar (Banna et al. (2015).

Learner-to-instructor interactions lead to high levels of learner engagement in online courses (Dixon, 2010; Gayton & McEwen, 2007). Bolliger and Martin (2018) found that active instructor engagement kept students connected to the online coursework. An instructor's online presence impacts online engagement among students (Holbeck & Hartman, 2018). Effective online instructors provide timely feedback and promote interactions between learners and between learners and content. It is important that online instructors are able to utilize a variety of instructional webtools and communication methods to connect with learners with diverse needs and learning styles (Bolliger and Martin, 2018.). Bolliger and Martin describe learner-to-content engagement as “the process of intellectually interacting which can change the learner’s understanding or perspective” (pg 205, 2018). They go on to explain that these interactions can take place through watching videos, interacting with media, or searching for information. Banna et al. (2015) found that synchronous and asynchronous options were both effective in facilitating learner engagement. With a growing number of web-based tools coming into the K-12 learning environment, online instructors have never had more options with which to engage their students in exploring and interacting with content. Dixon (2010) reported that students felt engaged when courses featured a variety of learning activities, effective communication with the instructor, and course facilitation strategies. Just as in a brick-and-mortar classroom, effective teaching means having skilled teachers creating opportunities for students to interact with content in meaningful ways.

Researchers have developed a variety of learning environment studies over the past two decades. Just as traditional educators focus on developing positive classroom environments and cultures, online educators must create virtual spaces that influence the same psychological factors. Lear et al. (2010) found a positive correlation between interactivity and a sense of community with student engagement. They studied student, course, and instructor factors as well as sought to define how engagement best occurs among the three factors. Lear, Ansorge, and Steckelberg (2010) mapped these interactions using the figure below in what they call the “Interactivity/Community Process Model for the Online Education Environment.” In this model, we see the importance of matching teacher expertise and course features to the needs of the student. There is a resemblance to Richard Elmore’s 2004 work known as “The Instructional Core,” which is used by many brick-and-mortar schools as the basis of the improvement practice of instructional rounds. The connection between these engagement models demonstrates practice from the physical school house that can be adapted for the online learning setting.

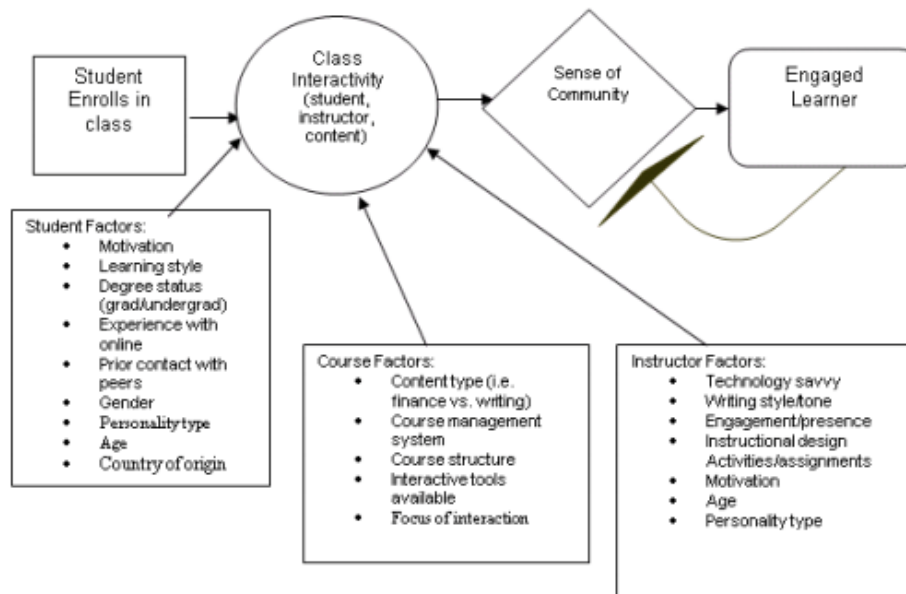


Figure 1. “Interactivity/Community Process Model for the Online Education Environment” Lear, Ansorge, and Steckelberg (2010)

Just as in the traditional classroom, student background factors have an impact on their engagement. Course content, structure, and the teacher’s communication approach must account for these student factors. Age of the learner and their learning style play an important role in determining if the course content will be developmentally appropriate in engaging the student. The student’s experience with technology also plays a factor. Although we consider our students today to be digital natives, if they are not familiar with productivity tools utilized by the teacher or the learning management system, engagement with online learning may suffer. Lear et al. (2010) found that prior interaction with peers and intrinsic motivation also played a role in student success in online learning. Students who enjoy high levels of peer interaction or have low self-motivation to engage with content tend to have less success with asynchronous online course work.

The structures and tools of the online course also play a role in engaging students. The model above shows that the availability of interactive tools makes online courses more engaging.

Lear et al. (2010) also asserted that course structures that are easy to navigate promote student engagement. This study also found that content type and the focus of course interactions play a role in promoting student engagement. Just as in a brick-and-mortar setting, individual students have preferences on what kind of courses they find interesting. When the emphasis of the online course is placed on interactive activities, Lear and his team found greater levels of student engagement.

Finally, this model shows the impact the course instructor has on class interactivity. Teachers in fully online courses have to make their presence felt by students. Just as teachers use proximity to manage student engagement in the physical classroom, online teachers must create this sense of closeness. Teachers can do this through their methods of communication, use of technology tools, and effective course design. Technology tools can be used to give timely feedback and create interactive activities. Email, messenger systems, and video chat can all be used to create two-way communication between students and teachers. Consistent communication fosters engagement by maintaining a close digital distance. Effective course design creates opportunities for teacher and student communication. Although many online programs are asynchronous, opportunities for check-ins and teacher interaction have been shown to promote student engagement.

In the decade following the work of Lear et al. (2010), researchers have continued to expand upon this model. Designing an online environment that fosters student engagement continues to be the primary driver behind this research. Age, motivation, and learning style continue to be important factors when developing an online learning program. When planning a secondary online learning program, educators must consider that students may not have access to parent or mentor support during the learning day (Carter, Rice, Yang, & Jackson, 2020). This lack

of support makes it important for online teachers and course designers to consider the technological know-how and prior knowledge of their students (Turkkila & Lommi, 2020). Curricular scaffolding and structure must be present in order for students from a variety of backgrounds to engage with complex content (Carter et al., 2020).

In online classes where a teacher is not physically present, platform tools can be used to engage students in self-regulated learning. Many learning management systems (LMSs) offer features to help students with appropriate pacing and the communication of course expectations. Even if deadlines are soft, having an established pacing guide helps students stay organized and engaged with course work (Rice & Carter, 2016). Learning management systems can also be used to monitor student engagement. These systems provide tracking for student, parents, and teachers to monitor time engaged with online learning activities (Borup, Chambers, & Stimson, 2019). Often this data is provided in the form of a dashboard. Having this data available to the invested parties helps to facilitate conversation around student performance and engagement trends.

2.2.3 Online Learning Environments Survey

The Australian research team of Trinidad, Aldridge, and Fraser (2005) developed the Online Learning Environments Survey (OLES) to measure the perceptions of both students and teachers in fully online environments. They developed a set of scales and items to use as an improvement tool for online environments. Similar to the work of Lear, Ansorge, and Steckelberg (2010), the Online Learning Environments Survey encompasses student, course, and instructor factors. This survey covers a broader range of subdomains in comparison to the model developed by Moore, but there are several key areas of agreement that will be addressed in detail later in this review. Rather than providing a set of targets for an online learning environment to meet, the OLES

provides qualitative discussion points for students and teachers. Instructors and program facilitators can use these statements to compare their current programming to what their students find to be best for their engagement.

The OLES has been used and adapted internationally in both higher education and K-12 online learning programs. The first scale that the OLES measures is Computer Usage. This indicator consists of five sub-questions using a Likert scale ranging from “Almost Never” to “Almost Always.” The questions are designed to determine how an online learner prefers to interact with the computer and the online course itself. Responses to these questions can help an online program instructor or on-site facilitator determine if a program is the proper placement for a particular student, or what level of technical support the learner may need to be successful.

The next indicator features a set of questions focused on student preferences for Teacher Support. These eight questions help draw out how students prefer to interact with their online teachers. Topics such as the timeliness of teacher responses to questions and methods of contact are addressed. In addition to making teaching style preferences known, the questions also touch on how the student feels comfortable communicating with the instructor. Later iterations of this survey were developed to capture the perceptions of teachers in order to match instructor perceptions to professional development and program improvement (Northcote, Kilgour, Reynaud, Gosselin, & McLoughlin, 2019).

The third area of the OLES is Student Interaction and Collaboration. This section features six questions focused on student preferences for interacting with other students. Questions include student preferences on group work and discussing their work with others. For instructors and program designers, this area is important because student responses can shape how activities and

platform tools are designed and implemented. For example, if a high number of respondents prefer group discussion, the online program needs to allow some online tool to facilitate this activity.

Authentic Learning, sometimes called active learning in some iterations of the survey, is the fourth area measured by OLES. These questions ask students if they prefer real-world examples and real data when completing class activities. From a design perspective, these questions help determine what kind of examples, case studies, and scenarios should be incorporated into course lessons and materials. Student responses on this indicator can also impact the pedagogy of the course. If the majority of students have a preference for working with real-world examples and information, using a project- or inquiry-based approach may garner higher levels of student engagement compared to a lecture or media presentation. Just as in other indicators on this survey, teacher competencies must support the available online course tools and student needs.

Personal Relevance is the next section of the OLES. Similar to a traditional classroom, relevance of the learning is an important factor in student engagement. The questions in this section ask students how they are able to apply learning in and out of the classroom. As with other sections, if the survey reveals that students prefer to bring their life experiences to the online learning environment, engagement can be fostered by creating opportunities for this to occur. Instructors and lesson designers must consider tools and activities to bring the outside world into the classroom and make class activities applicable to students' outside lives.

The next section of the OLES is focused on Student Autonomy. These questions are centered around the ideas of the role students want to play in their own learning. Students are also asked whether they prefer to work when times are convenient as opposed to a set schedule. Understanding student autonomy is important to instructors so that they know how much support to provide. It is important for online learning programs to feature supports for helping students to

self-regulate whether through platform organizational tools or through thoughtful scaffolding (Carter et al., 2020). Understanding student needs and preferences will allow a program to personalize student supports.

Equity is the next topic investigated by the OLES. These questions focus on how the student would like to be treated in the online classroom. This includes finding student preferences on topics such as the amount of discussion time they contribute, the amount of teacher help they receive, and the amount of teacher encouragement as compared to their peers. The questions covered in this section are similar to the student preferences a teacher discovers in working with their students in a face-to-face classroom. In the online environment, where a teacher does not have physical cues and hours of weekly behavioral observations to make, learning about student preferences through the survey can be helpful in fostering a positive relationship.

The final area the OLES explores is Asynchronicity. This section explores how students prefer to interact with asynchronous work. This information is important in determining the types of activities students will engage in. As with other elements of this survey, asynchronous work requires a level of self-regulation by the student. Online teachers can better design their course activities and structures if they have knowledge of their student preferences and tendencies regarding when and where they choose to engage in learning. Pacing and monitoring the engagement of students with instructional materials are important planning points for successful online instruction (Carter et al., 2020).

Overall, OLES aims to provide a comprehensive view of student perceptions and preferences regarding their online learning. When paired with student background data, the survey can be used to guide effective student engagement. Some versions of this survey allow for student and teacher scores to be compared to find common ground for course design. The scales are

designed to be extensive enough to capture the entire online learning experience. This data would provide a detailed starting point for program improvement centered on promoting student engagement.

2.3 Professional Learning Organizations for Online Learning

2.3.1 The Aurora Institute

The Aurora Institute is a non-profit organization that works to provide resources and policy guidance on innovations in education (Aurora Institute, 2020). Originally founded as NACOL, the North American Council for Online Learning, The Aurora Institute has grown to encompass a variety of innovative ideas in teaching and learning. With an original focus on online education, NACOL became a national resource for the online education community. NACOL began supporting online educators through annual symposia and by providing reviews and curation of online learning frameworks and resources. Currently the organization continues to release issue briefs and blog posts that help guide educators to practices that promote learner engagement.

Although The Aurora Institute has evolved beyond its original focus of online learning, their influence in promoting guidance and resources is important in supporting professional learning and growth. Despite the fact the organization does not provide a unified model or framework for online engagement, its digital presence and synchronous meetings provide an opportunity for dialogue and innovation in this area. Regularly updated resources shared through their website allow educators access to best practices from around the country. This site allows users to join the organization, which creates an online learning community of educators,

researchers, and policy makers. The Aurora Institute serves as hub for professional networking and learning regarding contemporary issues in education.

2.3.2 The National Standards for Quality Online Learning

The National Standards for Quality Online Learning is a project comprised of The Virtual Learning Leadership Alliance, Quality Matters, and The Digital Learning Collaborative. Together these organizations have worked with **national** online education stakeholders to develop standards for online teaching, online courses, and online programs. The purpose of this collaborative project is to create a common philosophy and benchmarking standard for online programs (Quality Matters, 2019). These **sets of** standards were most recently updated in 2019. Standards can be accessed from the project's website and downloaded for institutional use. The three separate sets of standards provide a framework by which to evaluate teachers, courses, and programs as a whole.

Table 2. The National Standards for Quality Online Teaching: Learning Engagement (2019)

Indicator	Indicator Description
D1	The online teacher uses digital tools to identify patterns in learner engagement and performance that will inform improvements to achieve individual learner growth.
D2	The online teacher engages learner agency.
D3	The online teacher enables a learner-customized pace and/or path through instruction aligned with learners' individual goals, learning trajectories, and interests.
D4	The online teacher establishes relationships through timely and encouraging communication, using various formats.
D5	The online teacher helps learners reach content mastery through instruction and quality feedback using various formats.
D6	The online teacher ensures that learners have necessary course resources and the information needed to navigate the learning platform and perform required tasks in a timely manner.
D7	The online teacher communicates frequently with stakeholders regarding learner progress and strategies for supporting learner engagement.

For the sake of this study, we will look closely at the Student Engagement Standard from the Quality Online Teaching standards. This standard consists of seven indicators that represent behaviors that teachers can exhibit to promote engagement in an online setting. The first indicator focuses on the use of digital tools by the teacher to identify patterns in learner engagement and performance. Digital tools, such as student activity and time logs, help a teacher understand when and for how long students engage in their online course work. Many learning management systems provide these tools for both the learner and the teacher. Information gained through these tools can be analyzed to determine the best time and method by which to intervene. Knowledge of a student's performance patterns helps a teacher determine the best time to prompt student engagement and how to customize learning experience to keep students focused.

The second indicator in this standard focuses on the importance of online teachers developing learner agency. Developing agency is important in asynchronous learning because students need to be self-motivated in order to meet deadlines and manage workloads over the span of the course. These standards recommend using strategies such as goal setting and progress reviews to build learner buy-in. The examples given in the standards assert that developing learner agency through student participation in goal setting and progress review improves student motivation as opposed to when teachers take all the responsibility. The data available from the digital tools, such as learning management systems mentioned in the previous standard, can be used to set goals and review student performance.

Goal setting and technology tools remain important in the third indicator. This indicator highlights the need for teachers to create a customized learning path for students based on individual goals, interests, and learning trajectories. In their explanation of the standard, the National Standards for Quality speak to the importance of shared ownership of learning goals and

intrinsic motivation in promoting student engagement (2019). Quality online teachers must be able to adapt learning plans, assessments, and activities to best match student need and interest. This means teachers must have the technical ability to adapt lessons within the constraints of the learning management system. Teachers must also be allowed the flexibility to make curriculum changes within the online program.

Building relationships with students is the focus of the fourth indicator. Here, the teachers are encouraged to use a variety of communication methods to reach students. Finding the right kind of communication method for each student is important in building a productive relationship. For some students, receiving a regular email may be enough to steer them towards working on a certain class or topic. Other students may need more in-depth live support to get what they need from the online course. In both cases, teachers can promote engagement by being what National Quality Standards (2019) call “a real, live person.”

The fifth indicator in the engagement standard speaks to the importance of quality feedback. Providing students with quality feedback gives them an opportunity to reflect on their learning and improve upon their past efforts. This indicator describes the importance of online teachers being able to use a variety of methods to communicate this feedback. Suggested types of feedback range from email communication regarding next steps to synchronous office hours during which the teacher facilitates one-on-one discussions around the student’s work. The standards also speak to the use of multimedia resources to help provide personalized learning experiences for students. With a wide range of digital tools and resources available to teachers at the present time, the opportunity to personalize learning through the medium that best fits them has never been better.

Indicator six addresses the importance of teachers arranging materials and resources in an easy-to-navigate manner within the learning management system. Ease of navigation for resources and assignments is important in preventing student frustration. Learners who become frustrated with the platform or those who cannot understand how to submit an assignment may disengage and be hesitant to return to the work. In a brick-and-mortar setting, teachers are in closer proximity to students and are able to observe behaviors to diagnose and alleviate frustrations. In the online setting, teachers must be proactive and provide clear navigation of resources. They must also be quick to communicate and provide feedback to help remove barriers to student success. This indicator is helpful in reminding teachers that just like in a physical classroom, the digital environment must be student centered to promote engagement.

The final indicator under the engagement standard focuses on stakeholder communication. The seventh indicator explains the importance of keeping parents, site-facilitators, and school counselors informed of student progress. These stakeholders may have access to and be able to provide touch points with the student that the online teacher does not have. Information from the learning management system can be made accessible to these stakeholders to keep them apprised of student performance and barriers to engagement. Just like communicating with students, the online teacher must be able to share information with these stakeholders in a variety of ways. Leveraging the support and access of this stakeholder team in a visible way can help keep students engaged in their online coursework.

The National Standards for Quality Online Teaching provide a robust framework for how teachers can best support their online students. With companion standards for both course and program design, this resource is a great reference for evaluating an online program. These standards were designed by a team of researchers and practitioners from across the United States

and are subject to periodic review and update. In these standards there is a connection in how the previous models discussed in this research manifest in actionable steps. These National Quality Standards for Online Teaching validate the past research while providing a level of depth and explanation that fit into our modern context in terms of tools and digital resources.

2.4 Common Ground Among the Models

2.4.1 Content Engagement

Among these three models, there are consistent areas that support student engagement in online learning. The first of these is the focus on how the learner interacts with the content. All three models have considerations for how student preference, background, and ability impact how they operate in the online environment. An effective online program must develop learning experiences that are both developmentally and culturally appropriate. These learning experiences must also foster relevance to the learner and provide some opportunity for interaction with the content. Content must be challenging but also consist of tasks and activities that take into consideration that learners are likely in a physical environment that does not feature a readily available parent or learning mentor.

Online content must be as accessible to students at home as it is to students in the classroom. Content alignment between the online and physical school is crucial to assure students transitioning from one environment to the other are not experiencing gaps in their learning. This is especially important to school district-based online schools. The ability to leverage high quality learning activities designed by knowledgeable teachers connected to the student's home district

helps to foster learner engagement at a level more closely aligned to that of the traditional school setting. Technology tools such as adaptive texts help to make content available to a wide range of online learners.

2.4.2 Tools That Foster Online Collaboration

The second area of consistency is an emphasis on developing an online environment that is easy to navigate and allows for communication and collaboration. This online learning environment is most often described as a platform or learning management system in our current context. The environment should consist of learning tools and activities that are easy to navigate and that foster interaction among students. Peer-to-peer connection through tools such as discussion boards and, more recently, video conferencing, has shown to have a positive impact on student engagement. Collaborative tools such as Google Docs have changed the way students work together online. An effective online learning environment emulates the physical presence students experience in a traditional classroom.

The technological toolkit available to online schools has never been more rich. Free and subscription-based products have come to play a similar role as the textbook publishers that supplied the paper-based and early digital world. Districts are now able to leverage tools such as Canvas or Schoology that allow for the integration of multiple online learning platforms. These platforms allow educators to design learning activities for both fully online and blended learning students. Technology integration such as this helps break down experiential barriers between fully online and brick and mortar students. These tools help bring social and pedagogical practices from the school house to an online world that helps students feel more present and connected.

2.4.3 Skilled Online Instructors

The final common area in the research is agreement on the importance of a skilled teacher in promoting student engagement. A skilled online teacher is able to develop learning activities that engage students using the digital tools that best fit their desired outcome. Teachers should also be able to communicate effectively using the various methods of communication available in a modern digital environment. An effective online instructor must make their presence felt and create a supportive online learning environment. This can be done through live video conferencing, leaving feedback messages on assignments, and/or communicating with families when intervention is needed. Overall, effective online teaching takes the same skills and attributes as effective in-person teaching. Teachers must design rigorous learning activities that challenge students while at the same time creating a climate that makes students feel supported in taking academic risks.

Quality instructors are especially important in online schools as they may be the only adults with whom the students interact. Just as in a traditional classroom, teachers are key in connecting students with their learning. Although many online programs offer asynchronous components, a quality teacher is needed to monitor and guide student learning. Teachers must know how much and when to intervene. Additionally, they must be able to identify student needs through online communication. It can be difficult to make an online classroom feel like a community. Students who build connections with their teachers are more likely to be engaged in the academic content (Quality Matters, 2019). Successful online teachers will need to be trained in how to build these online communities.

3.0 Methodology

In this chapter, the researcher will discuss the research methodology developed for this mixed-method study. The study was designed to gather student preferences regarding engagement in online learning environments; findings will be used to guide program improvement. Data will be drawn from two sources, a survey and a focus group. Two research questions (described in the next section) guide the study. This chapter describes the quantitative survey, protocols used for the focus group, and the data analysis methods the researcher used to classify and categorize participant responses. First, the researcher will discuss the researcher's background as well as the reasoning behind the selection of the participants for the study.

3.1 Research Questions

- 1) What aspects of the online learning environment to recent graduates identify as working best to promote their engagement?
- 2) What strengths and weaknesses do recent graduates identify in our current online learning model and how do they compare to best practice?

3.2 The Researcher

The researcher in this study is the chief administrator of an online academy based in a K-12 public school district. The researcher has 12 years of experience working in a public K-12

setting. In addition to being the administrator of an online school, the researcher has been a student in an online post-secondary graduate program. As preparation for completing this study, the researcher has taken coursework designed to improve their knowledge and skill in qualitative survey and discussion protocol design. The researcher has no ties to any of the participants in the study or any outside agencies that could influence the study.

3.3 Participants

Participants in this study were young adults, aged 18 or older, who graduated from the online academy in the spring of 2021. This graduation cohort consisted of 43 students. Recent graduates were selected due to their firsthand experience working with the instructors and learning management system in the online academy. These former students represent a range of academic skills and strengths and were selected due to their wide range of post-secondary pursuits. Members of this cohort were currently enrolled in four-year colleges or technical schools, or are actively engaged in the workforce. This group of participants were able to provide perspective on a broad range of student experiences.

Participants were invited to complete the survey via a phone call; their phone numbers and emails were accessed from files kept for post-graduation support services. Consent was obtained, and participants were provided with an explanation of the purpose and nature of the study. Those who opted to complete the survey were sent the online survey via email. Upon completing the survey, participants were invited to engage in a focus group discussion. The focus group discussion was planned to be held at a local café with refreshments provided by the researcher. Consent was obtained from the participants to audio record their responses to the discussion protocol. A copy

of the consent form can be found in Appendix A. Participants will be provided with a copy of their responses upon request.

3.4 Methodology and Protocols

3.4.1 Survey

A survey was chosen as the primary method to collect student preferences regarding online engagement. The survey was used to collect data for both research questions. The Online Learning Environment Survey (OLES) as developed by Trinidad and Pearson (2005) was adapted for use in this study. An adapted version of the OLES was chosen as the data collection tool due to the comprehensive range of topics it includes.

Table 3. Adapted OLES Domains with Sample Questions

<u>Adapted OLES Domain</u>	<u>Sample Question</u>
Technology Usage (TU)	I prefer to participate in discussions with peers online as opposed to in-person
Online Teacher Support (TS)	I prefer having a virtual discussion with my teacher (e.g., Zoom, Skype, Teams, etc.)
Peer Interaction and Collaboration (PIC)	I prefer to group work as part of class activities
Authenticity and Relevance (AR)	I prefer class activities based on real life activities or case studies
Student Autonomy and Synchronicity (SAR)	I prefer live lessons rather than recordings

This tool allowed the researcher to incorporate concepts introduced by Moore's (1993) framework, the Interactivity/Community Process Model for the Online Education Environment (Lear et al., 2010) and the National Standards for Quality Online Teaching (Quality Matters, 2019). Questions were designed based on the OLES domains but include the overlapping topics of peer-

to-peer engagement, student-to-teacher engagement, and student-to-content engagement found in each of the online learning models. Survey questions were crafted in age-appropriate language and with contextual references. Section two of the survey features questions focused specifically on program improvement. These questions are designed to draw out specific feedback related to student experiences in the online academy. The balance of questions on student preferences and their lived experiences provided a basis for addressing both research questions in this study.

3.4.1.1 Survey Protocols

The survey was administered using Qualtrics survey software. Participants were sent the survey via their personal email. Likert scale questions were used across each of the six domains addressed in the survey. The first five domains are based on Trinidad and Pearson's (2005) Online Learning Environments Survey, or OLES. Elements of Moore's Engagement Model (1993) and the Interactivity/Community Process Model for the online Education Environment by Lear, Ansorge, and Steckleberg (2010) were incorporated in the survey questions for each OLES derived domain. Questions were also revised to include elements of the more modern lens of the National Standards for Quality Online Teaching standard on student engagement (Quality Matters, 2019). Survey respondents were given the option to participate in the focus group discussion as the final question of the survey. For these respondents, care was taken to assure that phone numbers, email addresses, and other identifiable personal information were not shared. Survey responses are only available to the researcher. Of the targeted cohort of 43 former students, the researcher hoped to have 15 former students participate.

This survey differs from the original OLES survey in several key ways. The first is the reduction from eight domains of the learning environment to five. This modification was made in order to make the survey more concise and maintain focus on the topic of engagement. The two

domains of “Personal Relevance” and “Authentic Learning” were combined into one domain, “Authenticity and Relevance.” Next, the domain of “Equity” was removed in its entirety based on the researcher’s belief that all students want to be treated equitably by their peers and teachers. Additionally, the overall question count was reduced to avoid redundancy and to maintain focus on topics found in all three online learning engagement models.

Beyond the five domains based on the OLES, the survey features a final section on program specific improvement questions. This section is comprised of eight questions, also rated on a five-point Likert scale. The scale has been changed from the prior sections of the survey to range from “Disagree” to “Agree.” Each of the questions is coded under an OLES-adapted domain. This coding is only visible to researcher. The goal of this section is to move away from the preference-based questions listed above to more direct evaluative questions that can be used to evaluate the online academy’s performance.

3.4.1.2 Survey Data Analysis

Survey data was analyzed by giving each of the ratings a numeric value ranging from one to five. “Never” was rated as one. The response of “sometimes” was rated as three and “always” was valued as five. Assigning numeric ratings allowed each category and statement of the survey to be analyzed in terms of range of responses and mean response. This data can be used to prioritize which elements of the online learning environment students find engaging and positive, and which they find to be less favorable. Standard deviations were also calculated to determine variance between student responses. These measures helped the researcher to identify priorities for program improvement.

3.4.2 Focus Group

3.4.2.1 Focus Group Protocol

The second source of data was a focus group, comprised of survey participants who volunteer to participate in the second part of this study. The purpose of this protocol was to gather qualitative data from past students regarding the strengths and weaknesses of the program as well as to further identify preferences that foster student engagement. The focus group allowed participants an opportunity to elaborate on their prior survey responses. The focus group discussion protocol was also intended to foster qualitative discussion around both research questions. A complete list of structured questions and the discussion protocol are found in Appendix B.

The focus group discussion, designed to last approximately 30 minutes, was semi-structured with questions designed from the same domains addressed in the survey. The desired participant size for this activity was three to five subjects, which would allow all participants the opportunity to respond to each question. Participants were able to skip any question they were not comfortable discussing. A copy of the protocol can be found in Appendix C. The focus group sessions took place in a public space, a café where participants were provided with refreshments in order to make them comfortable and to encourage community dialogue.

Focus group questions were designed to correlate with each research question as well as the six OLES derived domains addressed in the survey. Questions were coded to one of the six domains participants interacted with on the quantitative survey, but participant responses sometimes addressed multiple OLES domains at once. This alignment allowed the researcher to code responses to the appropriate research question and engagement category. Responses that fell into multiple categories were coded as primary evidence for the domain they most strongly

address and secondary evidence for the other domain with which they intersect. The goal of these questions was to promote a deeper understanding of online learner preferences regarding engagement and to evaluate our online program as a whole.

Table 4. Protocol Questions with Desired Information

<u>Protocol Question</u>	<u>Desired Information</u>
Technology Usage: What kinds of online activities did you find to be the most interesting? Which things held your attention?	What online activities do students find to be most engaging?
Teacher Communication: Did you find your teachers to be engaging? What kinds of things did teachers do to help you connect with the work?	What teacher actions promote engagement in the online environment?
Peer Communication: Did you have any opportunities to work with other students in your online classes? If so, did it impact your likelihood to complete assignments?	How does peer-to-peer interaction impact online engagement?
Authenticity and Relevance: Tell me how your online classes connected with your life and personal experiences.	How does the current program foster connections between the student and the content?
Asynchronicity: Did you find the asynchronous classes to be helpful or harmful when it came to engaging with the work each day?	Do asynchronous lessons foster engagement among online learners?

3.4.2.2 Focus Group Analysis

To support the analysis of the focus group discussion, the conversation was recorded with participant permission. The discussion was then transcribed with the assistance of Otter AI transcription software. Once transcribed, responses were coded using the six domains from the original survey. Participant statements were then coded as either positive or negative regarding that particular domain topic. A positive statement means that a participant identified a certain

practice as supporting their engagement. A negative statement means that a participant identified a practice or feature as unappealing or not supportive of promoting their engagement with the online course. A table was created to organize participant statements. The table provided a summary, broken down by domain, of participant statements. This also allowed these qualitative data to live alongside the quantitative survey responses to show what elements of the online program students find to be most engaging and which elements of the program they find need improvement.

Table 5. Example Focus Group Coding Chart

<u>Participant Statement</u>	<u>Domain</u>	<u>Position: Positive/Negative</u>	<u>Theme</u>
Recorded video lessons are boring.	Online Teacher Support	Negative	Teacher to student engagement
I appreciated the live chats with the teachers	Online Teacher Support	Positive	Teacher to student engagement

4.0 Findings

This study was designed to answer two research questions regarding the current online course offerings at Suburban High School. These two questions are: 1) What aspects of the online learning environment do recent graduates identify as working best to promote their engagement? and 2) What strengths and weaknesses do recent graduates identify in the current online learning model? Two data collection methods were developed to explore user needs and areas for program improvement. The first was a quantitative survey developed with common elements from the Online Environments Survey (OLES) and the National Standards for Quality's Standards for Online Learning (NSQ). The second data collection method was a focus group discussion that expanded on the topics introduced in the survey. Due to a surge in COVID-19 cases in January 2022, the focus group discussion was conducted via Zoom.

4.1 Participant Cohort Data

Of the 43 student participants, only two had failed a class in the traditional high school setting prior to their enrollment in the online academy. In the fully online setting, 16 of the 43 failed a course. Six of these 16 students were enrolled in at least one Advanced Placement course, and six others were enrolled half day at the career and technical education program. This dramatic change in student performance across a range of learner types provided compelling data.

Table 6. Class of 2021 Cohort Failure Rates Compared to Survey Participants

Enrollment Type	Total Cohort Enrollment	Survey Participant Enrollment	Cohort Failing a Course	Survey Participant Failing a Course	Percentage of Population Failing a Course	Percentage of Survey Participants Failing a Course
Online Academy Total	43	11	16	5	37%	45%
Enrolled in at Least One Advanced Placement Course	12	5	6	1	50%	20%
Cohort Members Enrolled a CTE Course	8	4	6	2	75%	50%

To gather data from this cohort, the survey was sent out to the email accounts of all 43 graduates and their parents. Follow-up phone calls were made to promote participation. At the end of the survey window, only 10 potential participants responded to the survey. Although the response rate was below what was desired by the researcher, the respondents make up a fairly representative sample of the Suburban Online Academy cohort. Five of the 11 respondents failed at least one online course. Five of the 11 respondents took at least one Advanced Placement course, and four of the 11 were enrolled in the Career and Technology Education program. A side-by-side comparison of total cohort makeup compared to the respondent population is found above in Table 6.

4.2 Survey Question Results and Discussion

The survey was distributed via email to the 43 recent graduates of the Suburban Online Academy. After two additional rounds of email prompts and phone calls to recruit more participants, the survey was closed out with 11 completed responses for a response rate of 26 percent. All respondents had at least two nine-week grading periods in the fully online setting. Three respondents had spent multiple years in the online academy, while six others had spent the entire 2020-2021 school year online. While the response numbers were lower than hoped, these responses still provided insight into how recent graduates prefer to interact with their online courses and their assessment of the strengths and weaknesses of the current online course offerings. In this section, I will provide a breakdown of each question response data as well as my analysis of trends. Data from this section was used to prompt further discussion in the focus group portion of the study.

4.2.1 Technology Usage

The first subtopic in the survey was based on the OLES category of “Technology Usage.” The two questions under this subtopic were focused on student preferences regarding how technology tools are used to ask questions of their teachers and to take assessments. Participants responded using a five-point Likert scale system. The scale also offered a neutral position by allowing participants to “Neither Agree nor Disagree” with a given statement.

The first question reads, “I prefer to ask my teacher questions through an online format such as email or messenger.” No respondents selected that they agreed or even mostly agreed with this statement. Six respondents mostly disagreed and three disagreed, with two more selecting a

neutral stance on the question. Respondents' negative feelings towards the use of email and messenger to ask questions of teachers is concerning, considering that email is the primary communication method used in the online academy. Eighty percent of respondents indicated a preference for a different form of communication with their teachers, which demonstrates a need for a different approach, or at least a different technology tool, to be adopted to better match user preferences. This preference is not a surprise considering the emphasis placed on effective teacher communication with students in all of the models reviewed in this study.

The second question in the Technology Usage subcategory asks if participants prefer to take assessments online versus through a more traditional format. For this question, six respondents reported no preference, while the remaining five respondents indicated that they prefer to take assessments in person. These user preferences regarding assessment type are helpful in understanding potential barriers to student engagement and success. Knowing that no respondents prefer online assessments to in-person methods may warrant additional research and comparison to determine how the assessment strategies in the traditional school setting differ from those in the online academy. This area will be explored further in the focus group discussion portion of this study.

Table 7. Technology Usage Survey Section Subset Results

Preference Statement	Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Agree	Standard Deviation
I prefer to ask my teacher questions through an online format such as email or messenger	3	6	2	0	0	.67
I prefer to take assessments such as tests and quizzes online as opposed to in person	3	2	6	0	0	.86

4.2.2 Online Teacher Support

Questions in this subsection were specifically focused on the NSQ Learner Engagement Standard, which defines what quality online teachers do to engage their students. As in the previous section, respondents were asked to agree or disagree with preference statements. This subcategory consisted of four preference statements. An “agree” or “mostly agree” in this section indicates that the respondent’s preference is aligned with the recommendation from the National Standards for Quality. No participants agreed or even mostly agreed with any of the four statements.

The first statement asked respondents if they prefer to receive written feedback on their assignments. The purpose of this question was to determine if students are seeking ongoing support from their online teachers regarding the quality of their work. Online tools in the academy allow teachers to score the work in the learning management system, or LMS, and provide a comment. Students are able to review the comment and make changes to their work in most instances. Nine respondents had no preference regarding receiving this type of feedback, with the remaining two participants being split between disagree and mostly disagree. Participants earlier indicated that they do not prefer to ask questions or take assessments using the online tools at hand. Perhaps this is a continuation of that preference.

The second preference statement in this series sought to determine if participants prefer having discussions with their teachers using video conferencing such as Zoom or Skype. Nine of the 11 respondents indicated that they do not prefer to have a video discussion with their teacher, with the remaining two participants selecting the neutral option. With three participants disagreeing with the statement and six more mostly disagreeing, one could infer that students may just not want to communicate with teachers unless necessary. This desire to not want to communicate regularly with teachers may be attributed to the participants all coming from an

asynchronous environment. Eight of the 11 participants in this survey had experienced synchronous remote learning the previous year when the schools closed due to the COVID-19 pandemic. Although video-based discussions with teachers have advantages in terms of engagement, participants in this survey do not prefer these live interactions.

The third question in this set asked if participants prefer daily interaction with their teacher by any means. The statement includes live lessons, emails, or instant messages as examples of teacher interaction. Eight of the 11 respondents were neutral on the topic of daily interaction. Two mostly disagreed, and one disagreed. Daily interaction is helpful in promoting engagement. Keeping in mind that the participants in this study chose to join the asynchronous academy may mean that they view daily interaction as not necessary. The high preference for the neutral position at the same time acknowledges that teacher interactions may be helpful when needed by a student.

The fourth and final question in the subcategory of Online Teacher Support asked participants for their preference regarding receiving regular progress reports from their teachers. For the asynchronous academy, having regular progress reports from teachers is designed to help students manage course timelines. These progress checks are also intended to prompt students to engage with the teacher and course. As with the prior question, eight respondents were neutral on whether progress reports were helpful or not, with the remaining three participants falling to the disagreement side of the scale. A neutral feeling toward regular progress reports could mean either students have an awareness of where they are in the course work or that the report itself isn't enough to help promote their engagement in the course. Since we have already established that students don't have a positive view of email communication and teacher feedback delivered through the LMS, we may infer that progress reports being delivered to the student via email are viewed in the same manner by students.

Participant preferences regarding the right amount of teacher interaction can be difficult to ascertain from survey results alone. All of the learning models reviewed in this study emphasize the importance of quality online teachers in promoting learner engagement. Teachers must understand how to communicate effectively with students. They must utilize the proper online tools to make learning engaging and appropriate for their students and subject. The respondents in this survey have all chosen to attend an online program that does not offer live lessons. This means that their preference may be to have as little teacher interaction as necessary.

Table 8. Online Teacher Support Subset Results

Preference Statement	Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Agree	Standard Deviation
I prefer to receive written feedback on completed assignments	1	1	9	0	0	.62
I prefer having virtual discussions with my teacher	3	6	2	0	0	.67
I prefer daily interaction with my teacher	1	2	8	0	0	.64
I find regular progress reports from my teacher helpful	1	2	8	0	0	.64

4.2.3 Peer Interaction and Collaboration

The third question set is focused on the subtopic of Peer Interaction and Collaboration. Statements in this category explore if and how participants interact with each other in the online environment. Positive peer interactions promote student engagement and help students develop a sense of community in the online classroom. As with teacher interactions, participants indicated a preference not to work with peers in the online setting. This is interesting considering the growing

number of tools, such as video conferencing and collaborative platforms, designed to promote online peer interaction. The preference to not work with peers, however, may be strong with the participants of this study given that they have opted into asynchronous courses. Peer interaction is not available in the Suburban Online Academy platform. Respondents may have had negative past experiences with collaborative peer activities that influenced their response. Further exploration of this topic may draw out more useful data.

Table 9. Peer Interaction and Collaboration Subset Results

Preference Statement	Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Agree	Standard Deviation
I prefer to work with others on online assignments	3	5	3	0	0	.74
I like to discuss my work and ideas with other students online	2	6	3	0	0	.67
I prefer live discussions with peers over discussion boards	3	6	2	0	0	.67
I prefer group work as part of class activities	2	8	1	0	0	.51

4.2.4 Authenticity and Relevance

The fourth subsection of the survey contained four preference statements regarding authenticity and relevance as it relates to online course work. Authenticity and relevance are important factors in “hooking” students and promoting their engagement in the learning process. Ten of the 11 respondents disagreed or mostly disagreed with the statement “I relate what I learned in my online classes to my outside life.” The second statement in this set assesses if participants

were able to apply their life experiences to their online course work. With eight out of the 11 respondents choosing a disagree statement, it shows that not only do the participants feel that the online program provides them with knowledge that is applicable outside of the class setting, they also don't have the opportunity to connect their life experiences to the coursework. These two data points display that participants did not readily see relevance in their coursework; which may be a contributing factor to a lack of engagement.

The latter two preference statements in the subsection deal with authenticity. The first question asks if participants prefer class activities being based on real-life activities or scenarios. While no participants agreed with this statement outright, eight of the 11 chose "neither agree nor disagree." The final preference statement asks if participants prefer activities that are focused on their future career goals. Nine of the 11 respondents chose neither agree nor disagree for this statement. While still not on the positive side on the scale, this statement had the lowest standard deviation of the survey thus far.

Table 10. Authenticity and Relevance Subset Results

Preference Statement	Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Agree	Standard Deviation
I relate what I learn from my online classes to my outside life	3	7	1	0	0	.57
I am able to apply my life experiences to my online classes	3	5	3	0	0	.74
I prefer class activities based on real life activities or scenarios	0	3	8	0	0	.45
I prefer class activities that are focused on my future career goals	0	2	9	0	0	.39

4.2.5 Student Autonomy and Synchronicity

The next subsection of the survey is focused on student autonomy and synchronicity. These preference statements seek to gather information about student preferences regarding when they learn and their level of self-direction. This section contained the most positive responses out of all the subsets. Ten of 11 respondents neither agreed nor disagreed with the idea that online classes allowed them to make decisions about how and what they learned. This response seems reasonable given that the online curriculum doesn't allow many opportunities for student choose within the class. Students have access to a wide variety of electives, but there aren't many inherent opportunities for differentiation without intervention from a special education teacher.

Synchronicity is the focus of the second question in this set. Eight participants neither agreed nor disagreed with the statement that they prefer working on classes at a time that they find convenient. The remaining three responses were for "mostly disagree." I expected the flexibility of the online program would draw greater agreement in the survey. Flexibility granted by an asynchronous model must be balanced with a student accountability measure that promotes effective time and task management.

The synchronous schedule is made possible by recorded video lessons. Anecdotally, Suburban Online Academy students have reported that the recorded lessons are a barrier to engagement due to them being outdated and boring. However, no participants identified a preference for live lessons over the recordings. Six participants chose a disagreement position, while the remaining five neither agreed nor disagreed that live lessons are preferred over recordings. This leads me to believe that students prefer neither. Just like their preference not to interact daily with a teacher, it is possible that participants in this study prefer to complete learning activities such as readings and educational games rather than watch recorded lectures. This area

warrants further exploration in order to clarify what types of instructional methods promote engagement.

The final question in this subset asks if participants prefer to participate in lessons at the same time as other students. While the program is asynchronous, if students preferred to learn the same time as others, a schedule could be created to accomplish this. Seven of 11 participants “mostly disagreed” with this statement, with four others taking a neutral stance. This shows the continued preference for flexibility in the “when” students learn. While this preference has been a common trend throughout the survey results, more feedback is needed to determine if asynchronous courses actually promote engagement or if this trend is a preference of the secondary learners in this study.

Table 11. Student Autonomy and Synchronicity

Preference Statement	Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Agree	Standard Deviation
My online classes allowed me to make decisions about how and what I learned	0	1	10	0	0	.08
I prefer working on classes at times I find convenient	0	3	8	0	0	.20
I prefer live lessons rather than watching recordings	2	4	5	0	0	.56
I prefer in participating in lessons at the same time as other students	0	7	4	0	0	.23

4.2.6 Program Quality

The final subsection contains eight statements focused on program quality. These statements were designed to allow participants the opportunity to agree or disagree with statements that address program characteristics that promote student engagement. While these statements follow the same theme as the preference statements in the prior subsets, the intention in this section was to capture data on how well the academy performs in these areas. Results in this section show greater response variety in comparison to the previous subsections. This shows that students may share similar preferences in what they want a program to look like, while having different experiences with the online academy itself. This variation in student response is likely due to the difference in the types of courses students were enrolled in. Internal coding shows that students in Advanced Placement (AP) classes had overall more positive responses than their peers enrolled in Career and Technology courses or traditional high school level coursework.

The first question in this subset asks if participants found their online classes to be as engaging as their in-person classes. Responses were evenly split, with four on the agreement side of the scale, four on the disagreement side, and three responses taking a neutral stance. Participants who failed a course all chose to “disagree” or “mostly disagree” with the statement. This data was important because it supported the problem of practice that prompted this study: the belief that the failure rates in the online academy are due to lack of student engagement. The next six questions in this section focus on what is causing this engagement gap.

The second question in the section asks if participants found their online courses to be as challenging as their in-person experiences. This question was focused on determining the rigor of the coursework. Too much rigor can be taxing for a student. Too little can be boring. Either can create a mismatch for students that leads to a loss of student engagement. Six of the 11 participants

selected an agreement statement, with one taking a neutral stance. The remaining four responses fell to three “mostly disagreeing” with one “disagree” vote. Responses here were mixed, but the majority of AP students selected “agreeing” statements. The high rate of agreement among AP students may be attributed to the framework established by the College Board creating consistency in student experiences.

Question three addresses the idea of authenticity and relevance addressed earlier in the survey. Questions about whether classes are interesting and worthy of the participants’ time were meant to reveal information regarding a potential barrier to engagement. Responses leaned more to the “agree” side of the scale, with five mostly agreeing and one agreeing. One response was neutral, with an even split of two and two between “disagree” and “mostly disagree.” Further research may be necessary to differentiate between types of courses participants find to be worth their time in order to determine what causes students to fail certain courses.

The fourth question in this series asks participants if their online courses provided opportunities to feel connected to a community. Seven participants selected a disagreement statement with two neutral and the remaining two responses split between agree and mostly agree. This question brought out the strongest disagreement statements, with five responses for “disagree” and two for “mostly disagree.” Although participants indicated previously in the survey that they did not like participating in group work or collaborative assignments, the majority also report not feeling connected to a community. Connectedness is an important component of all the models included in this study. It is important to note that collaborative assignments do not create community just by being offered. Teacher and school leaders must structure opportunities to develop community among learners.

The fifth question in this set reflects back to the topic of Online Teacher Support. Earlier in the survey, participants indicated that they preferred not to have regular contact with teachers. Daily interactions and regular check-ins were not preferred. Participants even indicated a preference for recorded lessons over live video sessions. Here we see a positive feeling toward the helpfulness of teachers when needed. Seven of the 11 participants had a positive response to the question, with two responding as neutral. Only two responses fell on the negative side of the scale, with one “disagree” and one “mostly disagree.”

In question six, participants were asked about the ease of navigation on the online platform. Participants had access to three different platforms. Most participants used one platform exclusively, but two used a mix of all three based on their scheduling needs. One participant indicated that the platform was not easy to navigate. Fortunately, this is the platform used least in the academy. Two were neutral, with five “mostly agreeing” and three “agreeing” that the online platform was easy to navigate.

The seventh question in this set asked participants if their online classes helped to prepare them for post-high school life. No participants agreed with this statement outright. Four mostly agreed, with four remaining neutral. Two participants disagreed, with one more mostly disagreeing. This question is important in helping to understand participant’s perceptions of the relevance of the online classes. One participant in this study failed all online courses that were not required for his graduation. Increasing the relevancy of coursework for students is an important approach to improving student engagement.

The final question of the set and survey asked if participants would recommend the online academy to a peer. This question is meant to gauge overall satisfaction with the program. This question had the highest standard deviation of the entire survey. Four participants agreed, with one

other “mostly agreeing.” Four were neutral, with two others outrightly “disagreeing” with the statement that they would recommend the online academy. For those who were academically successful and enjoyed the autonomy of asynchronous learning, I expected a positive overall outlook.

Table 12. Program Quality Ratings

Preference Statement	Disagree	Mostly Disagree	Neither Agree nor Disagree	Mostly Agree	Agree	Standard Deviation
My online classes were as engaging as in-person learning	1	3	3	2	2	1.24
My online classes were as challenging as in-person learning	1	3	1	4	2	1.29
My online classes contained activities that were interesting and worthy of my time	2	2	1	5	1	1.31
My online classes provided me opportunities to feel connected to a community	5	2	2	1	1	1.34
My online teachers were helpful when I needed them	1	1	2	3	4	1.29
I found my online classes easy to navigate	0	1	2	5	3	.90
My online classes helped prepare me for post-high school life	2	1	4	4	0	1.08
I would recommend the online academy to other high school students	2	0	4	1	4	1.44

4.3 Focus Group Discussion Findings

The second component of the study consisted of a focus group discussion with two participants. The 11 participants who completed the survey were invited to attend. Only two participants were able to join. Due to the increase in COVID 19 cases during this study, the focus group had to be held remotely using Zoom. The discussion was transcribed, with permission from the participants, using Otter AI. Table 13 below features participant statements that provide user preferences in greater depth beyond the statements found in the survey portion of the study. Each statement is coded to a subdomain of OLES and determined to be a positive or negative. Finally, each statement is summarized by a theme that runs through the survey and literature review portion of the study. This data will be used to inform the discussion found in chapter five of this study.

Table 13. Focus Group Discussion Findings-Technology Usage

<u>Participant Statement</u>	<u>Domain</u>	<u>Position: Positive/Negative</u>
I liked the questions after the videos. They engaged me and made sure that I'm like paying attention and getting correct answers	Technology Usage	Positive
Whenever I would get a math question wrong in that checkup and I would go back to the video and kind of see like what I did wrong.	Technology Usage	Positive
I like I like video stuff, but I think it probably just needs to be updated and more engaging than what we have.	Technology Usage	Negative
But yeah, I mainly like video stuff like pretty much anything that I teach myself, I watch a video about it.	Technology Usage	Positive
Last year I did join some econ live lessons and I thought it was pretty helpful	Technology Usage	Positive
The only thing that I don't like about it (live lessons) is like some flexibility. But I think I still would like to do it. I just haven't ever done one, though.	Technology Usage	Positive

4.3.1 Technology Usage

The responses from participants in this section show a preference for recorded lessons over synchronous live lessons. The program offers live teacher support, but participants admitted not utilizing that feature. Participants like the flexibility of video lessons, although the age of the video was identified as a negative. The ability to rewind video lessons allowed participants to review teacher feedback and assessment results and then re-watch the lesson. This structure allows flexibility in terms of timing and promotes self-directed learning with teacher feedback.

Table 14. Focus Group Discussion Findings-Online Teacher Support

I had a pretty good experience with some teachers, but then other teachers would not respond and like a three day span and then I would get stressed	Online Teacher Support	Negative	Inconsistent levels of teacher interaction and support
I had like almost the exact same experience. I guess we probably had the same English teacher	Online Teacher Support	Negative	Inconsistent levels of teacher interaction and support
Their interaction seems like a lot of the emails are like automatically generated and not from the actual teacher.	Online Teacher Support	Negative	Teacher interactions are not personal
I wish there was like a Slack or like Discord server for this because it's so clunky, like have to send an email for every tiny little thing when I don't think they're going to respond quickly anyway.	Online Teacher Support/Technology Usage	Negative	More timely interaction with teachers through a messaging tool

Table 14 continued

Speaking of teacher interaction, they, a lot of them, would call me and leave me voice messages on my phone, which I don't like responding to.	Online Teacher Support/Technology Usage	Negative	Phone calls from teachers not an effective engagement strategy
Well, my Pearson teachers have to call me because it's mandatory like they email me like, "Hey I'm going to call you again." I still wouldn't answer if it wasn't a local number	Online Teacher Support/Technology Usage	Negative	Prompting students to prepare for a phone call via email not effective in promoting engagement
I don't go on my phone at all while I'm working. Like I wake up at like six or seven AM and I don't check my phone until like 5pm. So it's completely useless to try and call me for anybody.	Online Teacher Support/Technology Usage	Negative	Prompting students to prepare for a phone call via email not effective in promoting engagement
I have my email open all day and send emails, no big deal, but it just, it seems outdated when I have to say, "Hey, can you reset an assignment?"	Online Teacher Support/Technology Usage	Negative	Email communication is not the best method for assistance in time sensitive situations

4.3.2 Online Teacher Support and Technology Usage

Responses in this section were all negative. Participants reported inconsistent levels of teacher support and communication. Email is used as the primary method of communication between teacher and students. The discussion group identified that email communication felt inauthentic and not timely. Some teachers reportedly attempted to use phone calls as a

communication method but both participants had a negative view of phone calls with teachers. It was reported that some teachers would prompt students to expect a phone call by sending an email. Participants stated that this did not promote their likeliness to answer the call. Participants also reported that at times directions for projects and activities were not clear in the learning management system and teachers sometimes would not be sure as to what the directions truly meant.

Table 15. Focus Group Discussion Findings-Peer Interaction and Collaboration

There were collaboration assignments in the class but they just like bypass it for me so everything else is all by myself. I haven't worked with anyone.	Peer Interaction and Collaboration/Technology Usage	Negative
I didn't even know we were taking the same classes; I just assumed I was the only one.	Peer Interaction and Collaboration /Technology Usage	Neutral
There's like, tons of glitches and it's like the websites coming apart. It'd be really nice to message someone and be like, is this my internet or is the site down?	Peer Interaction and Collaboration /Technology Usage	Negative
It was the interaction that I was missing because I took AP Gov last year. And gov is kind of a cult like a collaborative like class. And so I guess I kind of like missed out on that and probably why like, I struggled a little bit with the class.	Peer Interaction and Collaboration	Negative

4.3.3 Peer Interaction and Collaboration

Questions in this section were geared toward the opportunities that students had to interact with peers in the online setting. All responses in this section were coded as “negative.” Participants reported that there were collaborative activities such as discussion boards in the online platform,

but these activities were bypassed by the teacher. Although the platform does allow for students to connect with a live teacher, there are no structures in place for live peer to peer interaction. Participants in the discussion were actually in several classes together and did not know it. One of the participants reported the lack of connectedness and opportunities for discussion around school work caused her to struggle.

Table 16. Focus Group Discussion Findings-Student Autonomy and Synchronicity

I woke up at 5am and started working like, I don't have to wait for anybody else. Great for me. I love it.	Student Autonomy and Synchronicity	Positive
I think the pacing was like the thing that like saved me Doing it in my own time and kind of like learning to like self-study, because like that's going to be really helpful for me in college	Student Autonomy and Synchronicity	Positive
I've been working as a racecar mechanic for the last two years and that requires traveling which I could not do at regular school	Student Autonomy and Synchronicity	Positive

4.3.4 Student Autonomy and Synchronicity

Participant responses in this section were all positive. There is a clear preference for the ability to have flexibility in the when and where participants completed their school work. Participants both stated that the pacing structure allowed for more self-direction in their day. Both participants also mentioned that taking an asynchronous course helped prepare them for college and balancing work obligations.

Table 17. Focus Group Discussion Findings-Authenticity and Relevance

Make the actual assignments that you're graded on more interesting.	Authenticity and Relevance	Negative
Let the teacher create some of the stuff because like multiple times I've heard from them that they don't create the stuff	Authenticity and Relevance/Online Teacher Support	Negative
I just think sometimes you're (The online classes) are a little bit like outdated as compared to history assignments that we do in school.	Authenticity and Relevance/Online Teacher Support	Negative

4.3.5 Authenticity and Relevance

Questions in this section were focused on how the online environment promotes engagement through authentic and relevant activities. All three responses showed a negative perception from the participants. Participants reported that the activities did not seem as modern or up-to-date as content prepared by their in-person classes prior to joining the online academy. This was attributed by the participants to the fact that the online teachers in the academy do not control the course content; rather, they just grade students in the learning management system. Additionally, the participants reported that the graded work could be boring at times.

5.0 Discussion and Recommendations

The purpose of this chapter is to discuss the implications of the results, acknowledge the limitations of the study, and recommend a course for program improvement given this new information. Participants shared an online learning experience similar to thousands of other students during the 2020-21 school year. While this study was conducted within the confines of one localized online academy setting, findings may be helpful for other programs utilizing a similar mode.

The problem of practice driving this study was the five-year historical trend of over 30 percent of the online academy students failing one or more classes, in contrast with the 1 percent course failure rate in the brick-and-mortar setting. With a much greater number of students enrolling in the Suburban Online Academy during the 2020-21 school year, the potential for this failure rate to scale up created a sense of urgency to address this problem. Students who had never failed a class before found themselves failing nearly all of their classes. The common trend among all students who failed courses was that the courses were incomplete. This situation informed the following two research questions:

- 1) What aspects of the online learning environment to recent graduates identify as working best to promote their engagement?
- 2) What strengths and weaknesses do recent graduates identify in our current online learning model?

5.1 Summary of Findings

In order to answer the two research questions guiding this study the survey and focus group discussion questions were designed to compare best practice models to that of participant preferences. Questions were also included that allowed participants to identify and discuss the strengths and weaknesses of the current online program. The questions used in the study were developed using common areas of from the Online Learning Environments Survey (Trinidad and Pearson, 2005), the Community Process Model for the Online Education Environment (Lear et al., 2010), and the National Standards for Quality Online Teaching engagement standard (Quality Matters, 2019). These questions focus on how teachers, the online platform, and peer interactions contribute to online learner engagement. Participants were presented a series of best practices and were asked to “agree” or to “disagree” with the statement. It was interesting to see that participants most often disagreed with practices that were identified through research to promote engagement.

5.1.1 Attitudes Towards Asynchronous Learning

The first finding based on the survey focus group discussion responses is that participants have a strong preference for asynchronous learning. Although the literature supports opportunities for synchronous meetings with teachers and peers, participants preferred to only interact with teachers on an as-needed basis. This response was common across the entire cohort regardless of their success in the program. The preference for flexibility over structure is likely contributing factor for the high failure rates identified in this problem of practice. Teachers reach out to students when they fall behind or have consistently low grades, but the program is otherwise run like an independent study. Since students don’t participate in regular check-ins, there is no opportunity

for relationship building with teachers to help promote engagement. The lack of relationships with teachers may make students less likely to participate in phone and video-based meetings when teachers reach out.

5.1.2 Need for Online Community

The preference for asynchronous learning leads to a lost opportunity to connect with peers. Participants in the study reported not knowing other students were in their classes and regretting the missed opportunity to discuss common issues. Moore's Engagement Framework, OLES, and NSQ all emphasize the need to promote engagement through peer-to-peer connections and online community building. Survey participants indicated that they were not interested in collaborative assignments or group discussions. However, the participants in the focus group acknowledged that their preference for asynchronous coursework may have come at the cost of online community. These participants acknowledged that the platform has group discussion assignments but that they are skipped by the teachers and not used as part of the graded activities. Finding a better balance between flexible scheduling and synchronous structures that promote engagement warrant further exploration.

Opportunities to build community extend beyond collaborative assignments. Participants indicated that feeling connected to a community is a weakness of the online program. This is an important data point as all the best practice models in this study discuss the importance of community and connectedness in promoting engagement. Both the NSQ Standards for Quality Online Teaching and the Community/Interactivity Process Model for the Online Education Environment discuss teacher action and platform tools that can be utilized to build community. Activities such as morning meetings and check-in/check-out provide opportunities for student

engagement and relationship building. Online teachers and program administrators must make time to build relationships and create opportunities for students to have shared experiences with their peers (Lear et al., 2010; Quality Matters, 2019). As mentioned earlier, the purely asynchronous nature of the platform makes this difficult.

5.1.3 Teacher Communication

In Chapter 2, the researcher discussed how Moore (1993) described the importance of analyzing the interaction between teacher and students. Participants in the focus group mentioned that using teachers from an outside vendor, rather than teachers from their district, created challenges to making connections. Participants reported having teachers from all over the country who may be accessing student work and attempting to communicate with students at odd hours of the day. These same participants described how utilizing email as the primary form of communication makes timely communication difficult due to lags in response time. It was also mentioned that often times emails follow a script and lack specific details personalized to each student or teachers. The lack of opportunities for meaningful interaction with teachers is a factor contributing to lower levels of engagement for students in the online academy.

In summary, participants prefer asynchronous coursework but experienced the drawbacks that come with an independently driven online program. A better balance must be struck between the flexibility of when and where students learn and the structures and relationships students need in order to be successful. Creating mandatory synchronous touchpoints is one way to do this. Improvements in teacher communication are needed in order to foster better student engagement. Increasing connections between students will help build community within the online academy. Although the current online platform allows for some collaborative discussions, these assignments

are currently being bypassed by the teachers. A gap exists between user preferences and what best practice indicates promote student engagement. A “Goldilocks Zone” must exist between student autonomy and teacher supports.

5.2 Limitations

The cohort selected for this study consisted of 43 possible participants, with 11 responding to the survey and two participating in the focus group discussion. Although the participant group represented a cross-section of the cohort, a response rate of just 26 percent means that the results may not speak for the entirety of user experiences. It is also worth noting that this cohort is made up of participants who opted in to an asynchronous learning academy. Many participants had experience with synchronous live learning prior to joining the academy. However, the fact that participants opted in to asynchronous learning may be indicative of a bias against higher levels of teacher and peer interaction.

In addition to the limited size of the study, the understanding of the participants must be considered. The survey uses terms such as “rigor” and “authenticity,” which participants may have varied understandings of. These varied understandings may have led to less precise responses than what may have been acquired from participants had a common understanding of each term been defined for the entire cohort. For instance, participants may have a different understanding of what it means for a course to be “engaging” or “challenging.” Defining these terms within the question may have created a more consistent understanding among respondents.

5.3 Implications for Improving Engagement in Online Learning

The COVID-19 pandemic forced millions of students to remote learning in the Spring of 2020. Schools around the world had to adapt traditional instructional methods to fit the new realities of online learning. As a result of this global phenomenon, students and educators were exposed to online learning strategies and tools they would have otherwise never experienced. While remote learning was not for everyone, the experience left some students and families with a sustained interest in online learning. School districts must provide a viable online learning option in order to meet the needs of these students or face the risk of losing them to alternative educational programs such as charter schools.

Developing a quality online program requires proper planning and stakeholder communication. The massive shift to online learning, which occurred as a result of the pandemic, required school systems to make important educational decisions in a matter of days and weeks as opposed to entering into a multi-step planning process. These processes allow school leaders to take input from prospective students, families, and teachers in order to make appropriate and effective decisions. The National Quality Standards for Online Learning provide standards by which program development questions can be framed. Using these standards as a planning framework allow school leaders to take feedback from stakeholders while having a benchmark to work towards.

Surveying and meeting with families and teachers during the planning phase serves two purposes. The first is to build a relationship with prospective students and parents. It is important that teachers be part of this process. This allows students and teachers to build a working relationship prior to academic engagement. The second purpose of holding these meetings is to preview what best practices look like in the online learning environment. School leadership must

set expectations for student and parent engagement as part of sharing their vision for the school. The National Standards for Quality Online Learning feature a standard on planning under the Quality Online Program standard (Quality Matters, 2019).

During this planning phase, school leadership must properly budget for and acquire the tools needed to operate effectively. Feedback from students and teachers is important in selecting the right learning management system. Ease of navigation in the online learning environment is a factor that promotes engagement according to both the Online Learning Community/Interactivity Model (Lear et al., 2010) and the National Standards for Quality Online Learning (Quality Matters, 2019). School leaders must budget time and resources to assure that teachers are properly trained to utilize the learning management system. On-going professional development must be scheduled to assure that teachers are continuously improving to best meet student needs. Additionally, school leaders must provide adequate support staff to support student needs that go beyond the scope of course instruction. Online students require technology support and counseling services. While these two areas may be vastly different in terms of the professional skills, both can become barriers to student engagement in learning. Without a responsive information technology department, relatively minor issues can cause students to lose valuable time in their course work. Not having access to professional counseling services and supports can deprive a student of the important social-emotional management skills needed to persevere through academic and life challenges.

Once out of the planning phase, an effective online program must offer continuous support. Just like in the physical classroom, online learners have a variety of learning and communication styles. Teachers must use a variety of online activities in order to differentiate for diverse learners. Effective online teachers must also be able to adapt learning materials and activities to meet the needs of students (Quality Matters, 2019). Strategies for providing tiered intervention must be

practiced in order to assure students have equitable access to the coursework. Additional supports can be offered by increasing the frequency and level of teacher communication and support. An example of this would be a teacher moving from emailing a student feedback to hosting a virtual meeting to discuss the student's work in more depth. A student who struggles to read may be better supported through a verbal conversation rather than written feedback. The opportunity for rapid back and forth conversation can create tighter feedback loops that keep students engaged in the work.

Finally, effective online programs can promote engagement by building a sense of community. The National Standards for Quality Online Teaching provide a standard on community building. Just as in a physical classroom, it is important for a teacher to model and implement effective communication and collaboration strategies for students. Teachers can do this by facilitating online collaborative activities such as voluntary class meetings, group discussions, and message board activities. A variety of tools, such as video conferencing and integrated chat functions, make it easy for students to connect and collaborate. Teachers must encourage positive peer interactions and enforce expectations.

School leaders must also play a role in community building. Holding regular meetings with parents and students is one strategy to maintain community engagement. These meetings can be framed around the National Standards for Quality Online Programs Standards that accompany the Standards for Online Teaching. A survey, based on this framework, can be administered prior to the school year to gauge stakeholder expectations and needs. This data can help guide the services and supports offered to start the school year. A mid-year survey will help benchmark program progress and provide an updated view of stakeholder needs and understandings. A final end-of-year reflection allows for reflection and guidance for changes that can be made to next year's

programming. Maintaining regular feedback loops with the user groups will help identify barriers to engagement and assure that the program is continually evolving to meet student needs.

5.4 Short Term Implications for Suburban Online Academy

This study was designed to contribute to a better understanding of the strengths and weaknesses of the current online program and explore researched-based best practices to guide improvements. Participants in the study identified the asynchronous course access as an area of strength. Inconsistent teacher communication and lack of interaction with peers were identified as areas of weakness. According to the National Standards for Quality Online Learning (Quality Matters, 2019) and the Online Learning Community/Interactivity Model (Lear et al., 2010), these areas of weakness are likely to negatively impact student engagement. Working with the resources available to the program, there are opportunities to improve practices to better promote student engagement. Based on the data, teacher/school communication and peer interaction are the primary areas of focus.

Moore's Framework (1993) describes the importance of using peer-to-peer and student-to-teacher interactions in promoting engagement. During the 2020-2021 school year, the Suburban School District provided a differentiated support approach to online classes. For grade levels K-5, the District provided teachers who held morning meetings and provided supplemental instruction. In these sessions, students were able to meet synchronously with their teacher and communicate with their peers. Teachers were able to supplement and augment vendor provided online curriculum using the learning management system. For grades 6-8, the District utilized vendor provided instructors and curriculum, but employed a program facilitator who meet daily with

students in a similar fashion to the elementary level morning meetings. Middle school students were able to communicate with peers in this meeting and continued to receive a similar homeroom experience as their brick-and-mortar peers. These additional supports at the elementary and middle school levels were not continued beyond the 2020-2021 school year due to a decrease in enrollment. At the high school level, these types of supports were not implemented. The diversity of courses offered and the larger population of high school online students led to the District opting to contract vendor instructional services for grades 9-12.

Moving away from vendor-provided instructional services is unlikely to happen the next few years due to staffing and budget constraints. A liaison or facilitator in the Suburban Online Academy could supplement the work of the online instructor and address the engagement needs of the students. The creation of a weekly check-in-check out with a program facilitator would help students manage their assignments and create a connection with the brick-and-mortar school. This model, which is similar to what was employed for the 2020-2021 school year for middle school students, would provide a higher level of support for those who need it. Although the online platform and learning management system show assignments and suggested due dates, the human connection and the prompting it provides would increase student academic engagement, including completion of assignments (Quality Matters,2019). Knowing that participants prefer to work asynchronously, this process could provide a structure by which students can be assisted with time management in a relatively low-contact way.

The second area for possible improvement is to increase peer interactions in order to promote engagement. Although survey results show a preference to avoid collaborative assignments and activities, participants also note a lack of community. These two factors combined support Moore's Framework (1993), which suggests that quality interaction with content and peers

will promote higher levels of engagement. Engagement can be improved by creating opportunities for ungraded peer to peer communication and community building. Weekly homerooms would allow grade-level groups to meet and connect around issues important to them. Class meetings could also be organized around common academic classes. These meetings would provide an initial point of contact for students to meet other students who are taking the same classes. Counting this as part of required attendance could incentivize student participation. From here, students could communicate organically using school provided email to establish study sessions or homework help as they do in the brick and mortar setting during study halls or lunch periods. Creating peer-to-peer communication around the learning community would promote engagement not just in the online coursework but in a greater online learning community (Lear et al., 2010).

If the Suburban Online Academy would have the opportunity to move away from vendor-provided instructional services, there would be greater opportunities to change practices to promote engagement. Suburban Online Academy would be able to adopt a learning management system that incorporates a direct messaging system that does not require external email exchanges. This would increase the speed of communication with teachers. Additionally, if the academy utilized teachers from the district, they would bring with them the technology tools and pedagogy they have developed to promote student engagement during remote learning. This shift would allow for the use of applications that students have become familiar with during remote learning and even their time in brick-and-mortar education, to more easily connect with classmates and teachers. Finally moving away from vendor-provided instructors would lead to a stronger sense of connection with the school and learner community, which, in turn, helps to promote engagement.

5.5 Recommendations for Further Research

This study was focused on the experiences of recent graduates in an asynchronous program. Further research is warranted regarding engagement factors surrounding programs that offer synchronous and hybrid online instruction. The scale and scope of remote learning during the global COVID-19 pandemic will no doubt yield opportunities for study and data collection. Understanding that there is no “one size fits all” approach to education, there is value in exploring the right balance of remote and blended instructional practices. Since the Suburban Online Academy operates in a larger brick and mortar school district, there is opportunity for direct comparison with the preferences and practices of peers who experienced synchronous remote instruction as well as hybrid models.

This study also raises questions related to the gap in what is identified as best practice from the four models discussed in chapter two and the preferences identified by participants. The researcher is curious as to how all 11 participants had a negative to neutral view point of every preference statement with the exception of the Program Quality subsection. The researcher entered the study with some anticipation of participant concerns with the level of support being offered. These concerns not only did not materialize in the study; rather, participants indicated a preference to not receive these recommended supports. While student performance data and research suggest a greater level of support be implemented, participant attitudes do not support this. Since participant preferences and attitudes did not align with best practice and the predictions of the researcher, further research is warranted to better understand stakeholder preferences and needs.

5.6 Conclusion

As a result of this study opportunities for program improvement in the Suburban Online Academy are evident. Survey results and findings from the focus group discussion paint a picture of the program's strengths and weaknesses. By introducing elements of the Online Learning Community/Interactivity Process model and the NSQ Standards for Online Teaching, the program can maintain its strengths while addressing areas of weakness that are barriers to engagement. Maintaining asynchronous coursework while augmenting the program with synchronous engagement points will be the focus of improvement efforts. Successful implementation of these interventions in Suburban Online Academy will be measured by continuing to monitor course failure rates in comparison to students in the brick and mortar setting and utilizing an annual survey to provide feedback for improvement.

Appendix A Online Engagement Survey (Qualtrics)

Q1 Please indicate which option best describes your current status

- ☐ Attending a four-year college or university (1)
- ☐ Attending a two-year college or technical (2)
- ☐ Serving in the military (3)
- ☐ Working full-time (4)
- ☐ Other (5)

Q2 Please indicate how long you were enrolled in the Hampton Online Academy during the 2020-2021 school year.

- ☐ One Quarter (1)
- ☐ Two Quarters (2)
- ☐ Three Quarters (3)
- ☐ The entire school year (4)
- ☐ More than one school year (5)

Q10 Which online platform did you use?

- ☐ Edgenuity (1)
- ☐ Edison (2)
- ☐ Pearson (3)
- ☐ Courses from a mix of platforms (4)

Q3 Technology Usage

	Disagree (1)	Mostly Disagree (2)	Neither Agree Nor Disagree (3)	Mostly Agree (4)	Agree (5)
I prefer to ask my teacher questions through an online format such as email or messenger (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to take assessments such as tests and quizzes online as opposed to in person (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Online Teacher Support

	Disagree (1)	Mostly Disagree (2)	Neither Agree Nor Disagree (3)	Mostly Agree (4)	Agree (5)
I prefer to receive written feedback on my completed assignments (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer having a virtual discussion with my teacher (e.g. Zoom, Skype, Teams, etc. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer daily interaction with my teacher. (Live lessons, calls, emails, instant messages, etc.) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find regular progress reports from my teachers helpful (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Peer Interaction and Collaboration

	Disagree (1)	Mostly Disagree (2)	Neither Agree Nor Disagree (3)	Most Agree (4)	Agree (5)
I prefer to work with others on online assignments (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to discuss my work and ideas with other students online (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer live video discussions with peers over discussion boards (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer group work as part of class activities (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 Authenticity and Relevance

	Disagree (1)	Mostly Disagree (2)	Neither Agree Nor Disagree (3)	Mostly Agree (4)	Agree (5)
I relate what I learned in my online classes to my outside life (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to apply my life experiences to my online classes (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer class activities based on real life activities or scenarios (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer class activities that are focused on my future career goals (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 Student Autonomy and Synchronicity

	Disagree (1)	Mostly Disagree (2)	Neither Agree Nor Disagree (3)	Mostly Agree (4)	Agree (5)
My online classes allowed me to make decisions about how and what I learned (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer working on classes at times I find convenient (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer live lessons rather than recordings (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer participating in lessons at the same time as other students (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My online classes helped me to become a more independent learner (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Program Quality Ratings	Disagree (1)	Mostly Disagree (2)	Neither Agree Nor Disagree (3)	Mostly Agree (4)	Agree (5)
My online courses were as engaging as in-person learning (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My online courses were as challenging as in-person learning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My online classes contained activities that were interesting and worthy of my time (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My online classes provided me opportunities to feel connected to a community (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My online teachers were helpful when I needed them (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I found my
online classes
easy to
navigate (6)

☐☐☐☐☐

My online
classes
helped to
prepare me
for my post-
high school
life (7)

☐☐☐☐☐

I would
recommend
the online
academy to
other high
school
students (8)

☐☐☐☐☐

Q12 If you are interested in participating in a short discussion related to this survey please enter your email address.

Appendix B Focus Group Protocol

Introduction:

Hello. Thank you for taking time to meet with me today. My name is Josh Cable and I'm currently a student in the University of Pittsburgh's Ed D program. As part of my research I'm looking at ways to improve engagement among our full-time online learners. I'm interested in your perspectives and experiences working with the program.

This interview should take around 30 minutes. With your permission I'd like to record the audio from our session. Although I will be taking notes I want to make sure I don't miss any of our conversation. All information from this conversation will be kept confidential and only be seen by the research team. Do I have your permission to record the audio for this session? Thank you.

Your participation in this interview is greatly appreciated. Feel free to skip any question you aren't comfortable discussing. Also I know your time is valuable, so we can end the interview whenever you may need to.

Thanks again for agreeing to participate in this project.

Research Question One: Which aspects of the online learning do students identify as promoting engagement?

1. Technology Usage: What kinds of online activities did you find to be the most interesting as a student? Which things held your attention?
2. Teacher Communication: Did you find your teachers to be engaging? What kinds of things did teachers do help you connect with the work?
3. Peer Communication: Did you have any opportunities to work with other students in your online classes? If so, did it impact your likeliness to complete assignments?
4. Authenticity and Relevance: Tell me how your online classes connected with your life and personal experiences.
5. Asynchronicity: Did you find the asynchronous classes to be helpful or harmful when it came to engaging with the work each day?

Research Question Two: What strengths and weaknesses exist in our current online learning model as identified by our recent graduates?

1. What did you like most about the online academy last year?
2. If you could change one thing about the online academy, what would it be?
3. Would you recommend the online academy to current high school students? Why or why not?

Closing:

Are there any topics we didn't cover that you'd like to discuss? I'll be compiling this information into a report over the next few weeks. Is it okay to follow up with you to make sure I got everything right? I'm also happy to share a copy of my report for your review.

Thanks again for taking time to meet with me.

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