Asynchronous Learning in High School

An A+ Inquiry Capstone Paper
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Master of Education

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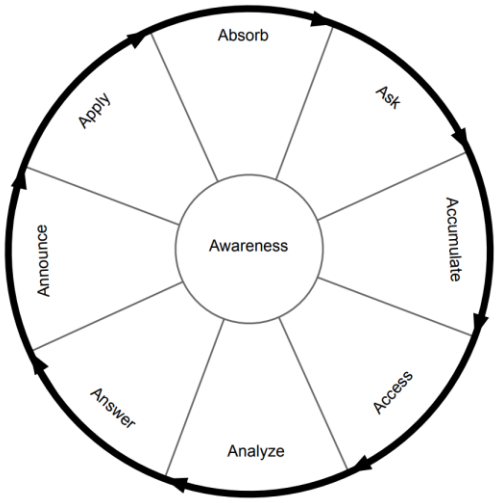
A+ Inquiry Framework Overview

A+ Inquiry is a framework that synthesizes common stages of disciplined inquiry processes, including research, assessment, and evaluation (Anderson et al., 2014). *A+ Inquiry* may be utilized for a variety of purposes, such as planning and implementing research; establishing common language for discussing quantitative, qualitative, or mixed methods inquiry approaches; providing rationale for decisions and actions; and diagnosing gaps in inquiry processes. *A+ Inquiry* is displayed as a cyclical framework with eight stages connected by a hub. Each stage and the hub begin with the letter A. The stages are Absorb, Ask, Accumulate, Access, Analyze, Answer, Announce, and Apply, which are bound in the center by a hub of Awareness.

In the Absorb stage, that which is already known about a context is acknowledged and a knowledge gap (i.e., a need to know more about something) is identified. In the Ask stage, questions are formulated that, if answered, will help close the knowledge gap that was identified in the Absorb stage. In the Accumulate stage, methods are described and implemented to collect quantitative and/or qualitative data that may be analyzed to answer the question posed in the Ask stage. If required data were already collected, details of the data are described and collection of the data is verified. In the Access stage, collected data are retrieved in preparation for analysis. In the Analyze stage, analysis of retrieved data is conducted. In the Answer stage, the questions that were posed in the Ask stage are answered, and the answers are interpreted, which may include identifying potential implications and limitations. In the Announce stage, the answers (i.e., data analysis results), along with applicable potential implications and limitations, are communicated to appropriate stakeholders. In the Apply stage, decisions are made and actions are taken based on the answer, limitations and implications of the answer, and applicable discussions among stakeholders. Awareness is the hub connecting all stages of the *A+ Inquiry* framework. Awareness serves as a reminder that when operating in one stage of the framework, it is important to be aware of how steps taken in the stage align with the other stages of the framework. For example, when collecting data, it is important to know which knowledge gap the data are intended to fill, how the data will be analyzed, and potential decisions that could be made based on data analysis results.



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Abstract

Since the onset of COVID-19 in North Dakota in the spring of 2020, high schools have adapted to meet the need of their students. While schools are exploring blended, asynchronous, and synchronous learning models, little research has been conducted on the effectiveness of this type of learning at high schools. This study focused on one high school in North Dakota where students are learning asynchronously both in school and at home online. Through the use of an online survey and focus group, we began the groundwork to answer how teachers structure their blended classes so their students have a meaningful learning experience. This research also searched for what skills teachers think are the most important for students and themselves as teachers to have to be a successful in an online learning environment. The research was analyzed by survey scales and coding to find themes throughout the data. Although this research study is limited to a rural 7-12 school in North Dakota, it will provide a starting place for rural schools to improve their online learning plans in North Dakota.

Absorb

In the Absorb stage, that which is already known about a context is acknowledged and a knowledge gap (i.e., a need to know more about something) is identified.

Overview of the Context

COVOD shut down in person schools in North Dakota on March 15, 2020 and did not allow them to open for the remainder of the 2019-2020 school year with few exceptions. North Dakota's Department of Instruction required all public schools to give students the option of attending school in person or online for the 2020-2021 school year. The school from this study decided to have their teachers teach their online students at the same time as their in-class students using Microsoft Teams meetings. No changes were made to the classes students were enrolled before changing to online learning. Students learning online were still enrolled in participation classes include physical education, band, choir, and career and technical education courses.

During the first semester of 2020, some online students excelled while other students did no schoolwork for the rest of the semester. Some students completed assignments in one class, but not another. Some students logged in to every meeting online with their teachers while others disappeared.

Twenty-seven 7-12 grade students originally signed up for online classes at the beginning of the year, but that number is constantly changing as more students choose to go online. At one point, one-third of the student body was sent home to quarantine and these students became online learning for two weeks. When the school was asked for a list of their current online learners, they did not have a current list and instead sent the list from August. After asking the primary teachers at the high school who teach a significant number of students, we were able to

calculate a more accurate number of 42 students are permanently online. The current school enrollment is 301 students which means 14 percent of the students in grades 7-12 are online students. Students are constantly switching between face to face and online learning if they are considered a close contact to someone who tested positive for COVID. According to the North Dakota Insights website, online attendance in grades 9-12 for the first semester of the 2020-2021 school year ranged from 15-49 percent.

This teaching experience made me curious about how teachers can structure their blended or online classes so their students can have a meaningful learning experience? What are the major obstacles teachers face while teaching and how can we overcome them? Also, what skills most important and make a bigger impact when learning and teaching online? With little training, limited resources, and not enough hours in the day, teachers are diligently working to try and make the best of this situation with no answer as to what the future of teaching holds.

Though this research is only focused on a rural school in North Dakota, it will hopefully begin a discussion and be a steppingstone to larger research projects about the effectiveness of online learning in high school.

Existing Knowledge About the Context

"Many schools and states are turning to online learning to replace or supplement teaching in brick-and-mortar classrooms" (Becker et al., 2015, p. 295). There is an abundance of research pertaining to online learning at the university level, but limited studies have taken place at high schools.

Classroom Community

Students cannot express themselves and fully participate in class online unless they feel as if they have been accepted by their peers (Malec & Phirangee, 2017). Teachers should create a

strong social presence online where they can create a sense of community among their students. Students who do need feel accepted or valued in their online classes will disconnect themselves from the class and the experience will negatively impact their learning by making them feel isolated or disconnected. The feeling of isolation created in online classes results in high dropout rates among students (Malec & Phirangee, 2017).

According to Malec and Phirangee (2017), the setup for online learning has the potential to exclude many types of students through the different types of interactions available with their peers and teachers. Teachers should create their online courses with opportunities for their students to interact with their peers (Chin-Hsi et al., 2016). Teachers should design course activities online to encourage interaction between students. The use of group work and modeling are appropriate and effective strategies for teachers to use online to facilitate an online classroom community.

Engagement

According to Chin-His et al. (2016), there are numerous characteristics of active learning. Students should do more than just listen to lectures and instead participate in higher order thinking. There should also be a greater focus on developing a student's skills. However, students need to come to class meetings prepared to confidentially participate in required group discussions. This preparatory work typically includes reading required texts before class.

Online Assessments

When the focus of a class is on passing assessments, students can develop a superficial approach to learning (Babon & Cook, 2016). Students will put more time and effort into assignments that are weighted with a higher percentage. Babon and Cook found that linking a percentage of a student's grade to online class participation, students put more effort into reading

the materials, coming to class prepared for discussions, and thus challenged their peers during their time together. The peer pressure of participating in class with their peers also helped encourage class preparedness.

Self-Regulation

Students who are highly self-regulated display more positive attitudes towards online courses than compared to low self-regulated students (Cho et al., 2017). These types of students also tend to study more material for longer than other students, which is why they have to possess better time management skills. They are motivated by achievement and frequently take more classes held in an independent environment.

Every person regulates their learning, but the levels of self-regulation vary (Cho et al., 2017). Self-regulation can be learned by proper teacher support in online environments. Teachers can scaffold their assignments and create smaller assignments, leading to a large assessment to provide more motivation and rewards to complete work. Teachers can also provide more group work and be a role model to share information. It is important for the teacher to interact frequently with their students in online courses.

Students who lack self-regulation skills are less likely to reach out for help from their online teacher compared to face-to-face settings (Cho et al., 2017). They will also take less responsibility for their learning in classes and blame external sources for their failure (Lombaerts et al., 2019).

Teacher Feedback

Current findings from Briggs and Turner (2018) have reaffirmed previous research of the importance of continuous feedback from teachers in online settings in preparation for assessments. Studies have proven that detailed feedback positively affects a student's future

performance. Responding to students' questions and grading assessments in a timely manner make students feel like they are valued in the class (Cho et al., 2017). Results show that messages sent later in the day and delayed reply messages were not as likely to receive responses (Chen et al., 2020). While quality and quantity of interaction between teachers and students increase the likelihood of students completing the course in virtual high schools, the amount of time required by a teacher to do so can be overwhelming.

Teacher Time

Blended learning can allow for differentiation of instruction, but it can be hard for the teacher to support each student considering the amount of time and work essential to do so (Lombaerts et al., 2019). Studies have shown that reusing assessments from year-to-year help ease this burden (Babon & Cook, 2016). However, that may not seem very encouraging to the first-year teacher when everyone and every task is demanding their time. Also, instructional strategies previously taught for the traditional classroom setup are not effective in online classroom settings. Online students miss the visual and auditory social cues that do not translate in a digital format. So not only do new teachers need to create new content, but they also need to create it in different ways depending on if they are teaching face-to-face in the classroom, completely online, or a blended environment of the two.

Course design is not the only thing to consider when building an online class. If the class is designed without actual course content, it is of limited use (Babon & Cook, 2016). Multimedia resources should be used to facilitate learning, not just engage the student (Kwon et al., 2019).

Student Performance

Research has shown (Denaro et al., 2019) that at-risk students tend to suffer more class performance penalties in online courses than the traditional in person course. "Most research on

college-level online course settings suggests that students do not perform as well in online courses compared to traditional face-to-face courses with respect to course completion, course grades, and subsequent college enrollment" (Denaro et al., 2019, p. 1). Students often associate online education with low quality teaching and poor-quality materials (Malec & Phirangee, 2017).

Student performance of online courses will affect their future plan of study. For example, students who complete an online course successfully will be more likely to take an online course again. Students who struggle with online courses will develop a negative feeling towards courses structures in an online environment. A study of virtual schools as referenced by Chin et al. (2016) have identified several items that increase a student's engagement with the online course. Two of these items are building on students' interests and focusing on student centered practices.

Students often take online courses to make up credits they failed in previous semesters. However, research has found that better learning outcomes (successfully completing the course) occurred when students took a course for reasons not related to credit recovery. These students checked in with their online class and stayed online longer than recovery students (Kwon et al., 2019).

Another thing that affects student performance is their access to technology and their ability to troubleshoot and fix technology problems as they arise during their online course. Besides just searching the web, online students need to know how to efficiently use the online platform such as Teams, Zoom, or Blackboard in order to communicate and complete assignments. Students need to also know how to troubleshoot common computer problems such as Internet issues and performance basic computer maintenance. Shutting down the computer

properly so it can update is one basic task most new online students seem to miss.

Time Management

While class discussions are an easy way to force students to interact with one another, differences among students need to be considered (Malec & Phirangee, 2017). Online discussions allow open communication, the exchanging of information, and can be accessed any time of the day (Chen et al., 2020). Online students work on their assignments at different times during the day, and their teacher may not always be available when students are to answer questions (Malec & Phirangee, 2017). For example, a student may work during the week and spend the weekends doing their assignments online. The teacher, however, worked all week and does not want to answer questions on the weekend when they need a break.

A main benefit of online learning is the ability for students to work on their course when convenient for them. Students are also able to take courses not offered at their current school (Chin-His et al., 2016). These courses provide a wider variety of choices which is especially popular at smaller rural schools. Online learning is also more cost-effective for school districts. Rather than having to hire specialty teachers or if a school district cannot find a teacher or teachers to fill their vacant spots, they can pay someone to teach only the few periods a day they are needed.

Missing Knowledge About the Context

Online learning is sweeping the nation (Bradley et al., 2013). This requires more attention directed toward developing instructional techniques that will enhance the learning experience of the student and help guide the teachers to create the best online atmosphere for their students. A new system of education is sweeping the nation with no clear ending destination. Multiple

research studies have been conducted at the university level, but limited studies have been held at high schools in America.

Some students are succeeding in their online courses and others are failing almost every online course they are currently enrolled in. These students both have about the same attendance, but one is completing assignments with accuracy and the other is not. What is the difference between these two? Also, some teachers adapted to teaching online relatively quickly while others are still struggling late into the first semester. What is the cause of this? I believe self-efficacy, motivation, technology, and organization are large components of what makes online learning successful for both the student and teacher. We should focus future research on the type of skills both students and teachers need to be effective in an online learning environment.

Significance of Filling the Knowledge Gap

If we know what teachers are doing in their classrooms that create an engaging and productive learning environment for their students, we could duplicate their practices in other classrooms. Teachers can help one another build their classroom communities and support one another in this online journey. We could also inform the heads of our schools as to what practices are best, what skills students need to effectively learn online, and what tools are required to effectively teach online.

Researcher Bias

I must recognize my biases as a teacher at the school participating in this research. Teaching students both online and in class at the same time was very challenging for me at the beginning of the school year which is why I choose this topic for my study. Things have become much easier after a few months of teaching this way. However, I would prefer to teach all my students in person and not online anymore. To avoid any biases affecting my study, I will have

participants review the results, check for alternative explanations, and review these findings with my peers and professors.

Ask

In the Ask stage, questions are formulated that, if answered, will help close the knowledge gap that was identified in the Absorb stage.

Research Questions

With little research conducted at the high school level for online learning, there are many questions about online learning. The answer to these four questions will become clearer throughout this study and will provide a solid foundation for future studies.

1. What types of challenges do teachers face when transitioning to an online learning environment?
2. What types of strategies are teachers implementing when teaching online?
3. What skills are important for students to have to successfully learn online?
4. What skills do teachers need to successfully teach in an online learning environment?

Accumulate

In the Accumulate stage, methods are described and implemented to collect quantitative and/or qualitative data that may be analyzed to answer the question posed in the Ask stage. If required data were already collected, details of the data are described and collection of the data is verified.

Data Description

The data for this research is classified as mixed. Focus group questions are qualitative and survey questions qualify as quantitative data. A mix of the two types of data will provide a more accurate collection of data to analyze into groups for study and is consistent with previous research on this topic that uses both qualitative and quantitative data.

Setting

The focus group met on November 23 from 3:45-4:37 pm on an online Teams meeting. The Teams program itself transcribed the meeting. After analyzing the focus group results, I created a Google form survey and emailed the link to the teachers on Monday, November 30 to the 7-12 grade high school teachers using their school email addresses. A reminder was sent out Thursday to all teachers to complete the survey. The survey responses were collected anonymously. Google stored the data until I downloaded it onto my computer which is stored at a secure location.

Participants

All 24 teachers at this 7-12 high school had the opportunity to complete the survey and participate in the focus group. All the teachers, minus one, taught in Stanley during the spring semester where we transitioned to online learning. Three of these teachers currently teach from home where a substitute teacher monitors the classroom at school. The rest of the teachers are in

the building, with one currently on maternity leave. All 24 teachers have been teaching in a blended environment (teaching students in the classroom and online asynchronously) since the beginning of the school year in late August.

Recruitment

The teachers at Stanley High School were contacted by email to ask for participation in this focus group. They were chosen because of the convenience of teaching at the school I also teach at. Six teachers participated in this focus group and 14 responded to the survey.

Instrument

Microsoft Teams was utilized to transcribe the focus group. The questions asked can be found in Appendix A.

The survey was created with Google forms and consisted of four questions (see Appendix B). The questions related to skills had response options of strongly agree, agree, disagree, and strongly disagree. The first question asked, “Mark the extent to which you agree or disagree that each of the following skills is important for a student to possess to be successful in an online learning environment.” The skills listed were computer skills, self-efficacy, time management, communication skills, focus, motivation, proper learning environment, and organization. The second question was option for teachers to provide anything else they thought is necessary for a student to be a successful online student. The third question asked, “Mark the extent to which you agree or disagree that each of the following skills is important for a teacher to possess to be successful in an online learning environment.” The skills listed were time management, quick response to students, preparation, creativity, organization, and patience. The forth and final question was optional for teachers to write anything else they thought is necessary for a person to

be a successful online learner. The survey took less than 10 minutes for each participant to complete.

Both Microsoft Teams and Google forms are reputable in their fields, reliable, and trustworthy. These online programs stored store the data until I download it to my computer and transfer the files to an Office program on my laptop computer.

Procedure (more detail)

Prior to beginning this study, I received IRB approval (see Appendix C). An email was sent out to all teachers to participate in the focus group. I welcomed the participants to the focus group and explained the format for the meeting. Each teacher would have their turn to answer the questions I asked and we would rotate who answered the question first. All participants were informed the meeting would be recorded. They previously received the IRB consent form for review and I reminded them that their responses would be kept confidential.

One week after the focus group, the survey was emailed to each teacher, with a reminder email sent two days later. The survey was emailed with a recruitment script and the IRB consent form.

Storage

The data was stored on my personal computer which is at a secure location and protected with a pin.

Literature Support for Accumulation

Previous research has focused on quantitative research with the use of surveys such as Cook and Babon who used Subject Experience Surveys, a study published by the Educause Center for Applied Research (Watson 2018) which utilized a survey to find the technologies

available to online students, and Bradley et al. (2018) used the Online Academic Success Indicators Sales to analyze the self-efficacy skills of online students.

Some research used qualitative data through the use of focus groups and case studies. Turner and Briggs (2018) used the case study approach to investigate the effectiveness of online assessments. Since both methods are used for this research, the data collection methods are the right fit for this topic.

Limitations of Accumulation Methods

One limitation to the accumulation of data was the number of teachers who completed the survey. 14 teachers out of 24 took part in the survey with is 58 percent of current teachers. Since this number is small, there is a limitation that the results do not accurately represent all teachers at the high school. However, the results are still valid since over 50 percent of the teachers responded.

Access

In the Access stage, collected data are retrieved in preparation for analysis.

Retrieval Time Frame

The accumulated data from the focus group was retrieved at the end of the focus group meeting on November 23, 2020. The online survey was sent to teachers on November 30 and closed on December 5. After closing the survey, I downloaded the Google spreadsheet to my computer using Microsoft Excel.

Retrieval Location

Accumulated data was retrieved online from my Google drive folder where the responses were automatically entered into a Google sheet automatically when the responses were submitted. The focus group video recording and written transcript from Microsoft Teams was stored on Microsoft Stream.

Retrieval Procedure

The focus group transcript was retrieved from Microsoft Teams and then downloaded to my computer as a VTT file. A Microsoft Stream transcript VTT file cleaner was used to remove the time stamps and copied and pasted the results into Word. Lastly, I read through the transcripts and compared it with the video file to make corrections and mark who the speaker was for all text. The Google form data was nicely organized into a Google spreadsheet that I downloaded to my computer into a Microsoft Excel spreadsheet.

Analyze

In the Analyze stage, analysis of retrieved data is conducted.

Analysis Time Frame

The focus group data was analyzed starting right after the conclusion of the focus group and concluded on December 5. The data from the survey was analyzed the day the survey was closed, also December 5.

Analysis Methods

After conducting the focus group, I took time to write down my overall impressions of the group and any non-verbal signals I picked up while they were sharing that the transcript would not notice such as when everyone would shake their head in agreement or disagreement. Throughout the meeting, I started writing down possible themes and took notes on what each teacher commented on to begin the grouping process. After reviewing my notes, I downloaded the transcript and edited it to increase clarity. I printed off a copy of the transcript and used a highlighter and group themes together. A qualitative data analysis program was unnecessary since this was a small focus group that lasted about an hour. The most common responses were grouped together and a survey about student and teacher skills were created. Two questions in this survey gave teachers the opportunity to freely write any extra comments about what is necessary to be a successful online teacher or student. These were also grouped in with my focus group since it's considered qualitative data.

The survey was downloaded into Excel and formulas were created to add the results of each question's categories. In order to respond to the third and fourth research question, what skills are important for teachers and/or students to be successful in an online learning

environment, I calculated the percentage of survey respondents who marked agree or disagree relevant to student skills.

Analysis Tools

The analysis tools for this study were very simple. Results from the survey were downloaded into Excel and then formulas were used to calculate the percent of respondents who chose strongly agree, agree, disagree, or strongly disagree. The analysis for the focus group and two open-ended questions from the survey was completed manually. Highlighting for coding to find themes among the results was done on Microsoft Word and on printed paper.

Literature Support of Analysis

All previous research studies that used quantitative data used mathematical programs to calculate their percentages from survey responses. Coding to discover themes was also a popular method to use when conducting a study with qualitative data. While some studies used different programs than those chosen for this study, the purpose and outcome is still the same.

Limitations of Analysis

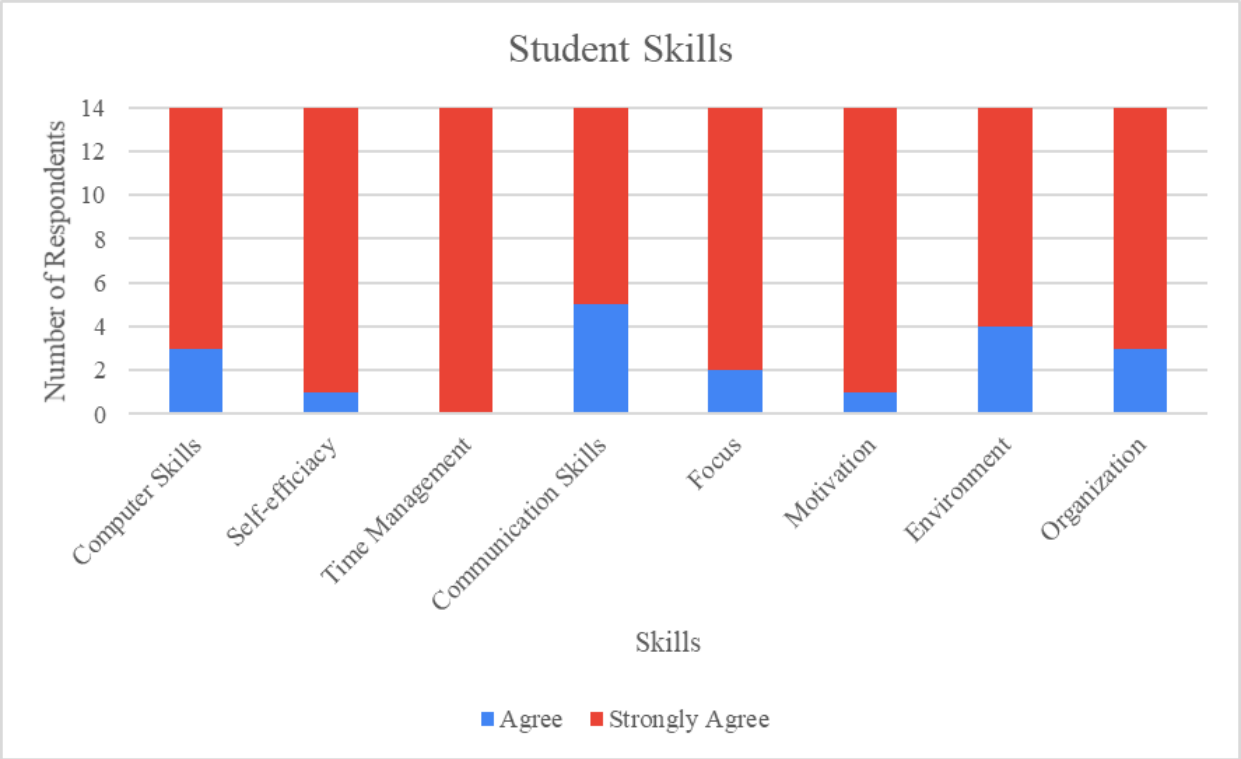
A major limitation to the analysis of data from this study was that there are no other results to compare the data from this study. The qualitative portion of this study was difficult to analyze without bias. Continuous checking of the focus group script and referencing the survey was a method used to prevent any bias from coming through the study.

Answer

In the Answer stage, the questions that were posed in the Ask stage are answered, and the answers are interpreted, which may include identifying potential implications and limitations.

Answers to Questions

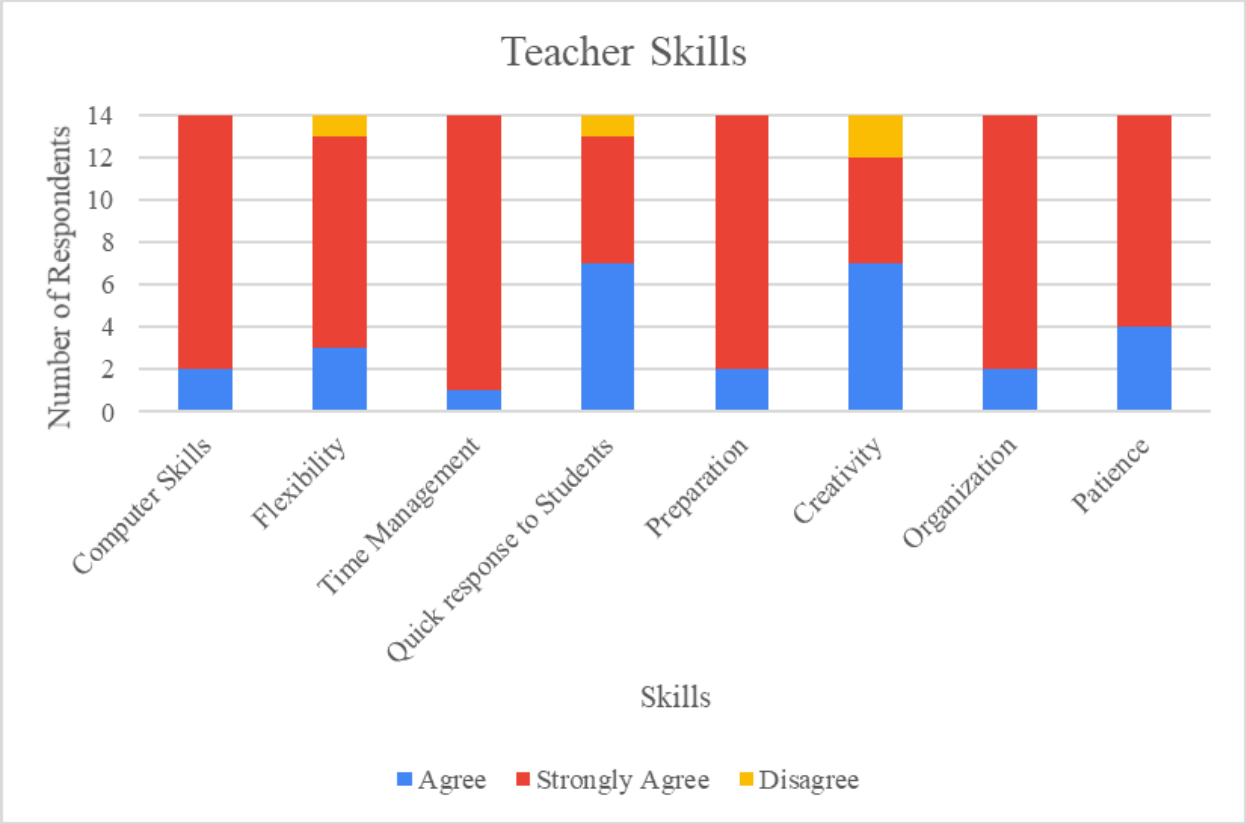
The first step to analyzing the data from this study was to download the results from the survey. The first survey question asked, “Mark the extent to which you agree or disagree that each of the following skills is important for a student to possess to be successful in an online learning environment.” The skills listed were computer skills, self-efficacy, time management, communication skills, focus, motivation, proper learning environment, and organization. Below are the results from this survey question.



100 percent of the teachers surveyed either agreed or strongly agreed that the listed students skills (computer skills, self-efficacy, time management, communication skills, focus,

motivation, environment, and organization) were important for a student to possess to be a successful learning in an online environment.

The second survey question asked, “Mark the extent to which you agree or disagree that each of the following skills is important for a teacher to possess to be successful in an online learning environment.” The skills listed were time management, quick responses to students, preparation, creativity, organization, and patience. Below are the results of this survey question.



The teacher skill portion of the survey offered more varied results than the student skills. While 100 percent of teachers either agreed or strongly agreed on certain skills teachers need to possess in order to be a successful teacher in an online learning environment (computer skills, time management, preparation, organization, and patience), three skills did not receive unanimous results. One response disagreed that flexibility was an important skill, one response

disagreed that quick response to students was necessary to be a successful online teacher, and two teachers did not agree that creativity was a necessary skill to be a successful online teacher. Still, 92 percent of teachers either agreed or strongly agreed that that flexibility and quick responses to students was an important skill and 86 percent selected agree or strongly agree for creativity.

Two questions from the online survey were open ended and asked if the participant wanted to add anything else that a student or teacher needed to be a successful in the online learning environment. The responses to these two questions was grouped together with the focus group responses to create the following themes that represent the challenges and positives for online learning.

Challenge 1: Technology Problems

A common frustration for all teachers who participated in this study was technology. 100 percent of teachers surveyed agreed or strongly agreed that technology skills are important for a teacher to possess in order to effectively teach online and 100 percent of the participants from the survey group said that the school has not provided them what they need to teach effectively online in terms of technology. Teachers from the focus group commented they need document cameras, better projectors, and better computers. Students at home report seeing a lot of fuzz at time during classes with labs. Teachers are unable to share videos with their online students. Either the students in the classroom can hear it or the online kids can. There are certain times during the day when the school's Internet connection is very slow, reportedly in the afternoon. One teacher moved the modem in their room to improve the Internet connectivity in their classroom, but that did not solve the connectivity problems.

All teachers from the focus group mentioned problems with their current computer they are using which has been issued from the school. There were numberous complaints from both the teachers and their students about the teachers' screens freezing and audio problems for students at home who cannot hear the teacher or have frequency issues. Since teachers were not provided with a microphone, one teacher bought her own headset that included a microphone. Cameras and speakers were installed in the classroom but are still not fully functional at the time of conclusion of this study in December. One teacher mentioned that the speakers installed in her classroom are helping but didn't fix all the audio problems. Teachers reported their computers freezing and crashing multiple times a week, if not a day.

Paraprofessionals, or paras, were not assigned their own laptops at the beginning of the year which has been a frustration for teachers. Teachers reported having to "fight" to get the para in their classroom a computer. Since paras are essential in some classrooms to assist students, and almost all assignments are on Teams, providing the paras with their own laptop is crucial.

While teachers are not happy with their current technology, there is a common theme that they do not know what they want. One teacher mentioned needing a tech person to help with that, to do the research for what they need. While they know their current laptop is not working, they do not have the time to research what a better option would be for them in the classroom.

Challenge 2: Teacher Training

The first few weeks of school this year were very stressful for teachers. The school pushed the start day for students back one week to allow more work time for teachers. Teachers were given training about Microsoft Teams, but feel they are lacking resources for how to effectively teach online. Teachers remarked that their "old ways" are not effective for online

students. Rather than more training on Microsoft Teams, teachers remarked on the need for specific training on student engagement and how to formatively assess students online.

Challenge 3: Assessments

Assessing student learning while online and in the classroom is challenging. Teachers commented on the amount of time it takes to prepare assignments for online students as being "overwhelming." While the number of online students fluctuate every day, teachers are not sure how many online students to prepare for versus in class students. Regular chapter or unit assessments are much more challenging in an online format. First, the assessment needs to be in an online format and secondly it needs to be delivered in a way that a student cannot cheat. Online students are not required to have a test proctor but may be required to turn their cameras and microphone on during an assessment. This is also represented from the survey results when 100 percent of teachers surveyed believe the environment for online students is important for them to be a successful online learner. Part of the environment includes an adult who can monitor the student's test-taking.

Results from the focus group revealed that online students are cheating since they are still accessing resources not allowed on a test (Internet, phone, notes, etc.) while the in-class students cannot cheat when they are under observation of the teacher. Some teachers have eliminated tests for the semester while others still try to give assessments that are fair to both online and in class students.

Challenge 4: Attendance

The first question asked of focus group participants was for them to describe what a typical class period looks like when you have students both online and in class. All six participants mentioned troubles with attendance. The school districted added two attendance

codes for online learners: Distant Learner Absent and Distance Learner Present. Attendance for some students have exceeded 50 absences this semester. Attendance is a problem particularly for online students. These students are expected to join a Teams meeting when class starts, but some do not join the meeting. The responses from teachers for this is mixed. Some do not call them where others will check who is missing from class and call them on Teams so the student can then answer the call and join class. However, most students are reported to not turn on their cameras and mute themselves which leads to further questioning if they are actually present for class.

Teachers are not sure when online students are coming or leaving class since they need their computer screens to teach and cannot view the online students simultaneously without switching back and forth between the different programs open on their computer during class. This is to the first challenge of teaching online: technology.

Positive 1: Microsoft Teams

A commonality among teachers at this select school is the use of Microsoft Teams in all classrooms. Focus group participants all mentioned the use of Teams in their classroom consistently throughout the year. While Teams may not be a teacher's ideal choice for an online classroom, it is consistently used throughout the entire school district. This provides one central place for all students to access materials for their classes and a place to join class while away from school. Teams has helped teachers become more organized which 100 percent of teachers surveyed agreed to be a necessary skill to teach effectively online.

Microsoft Teams has also provided a central location for teachers to provide feedback to assignments. Students can also message teachers through chat on Teams at any time of the day.

While teachers are not required to answer chats outside of contract hours, the message is still there for teachers to check when they come back to school.

Positive 2: Self-efficacy

Teachers are putting a lot of responsibility on their online students. They are responsible to come to their teachers if they have questions or if their technology is not working. Multiple participants mentioned the need for their students to "self-advocate" which is similar to self-efficacy in this instance when the student is taking control of their schoolwork. The skills that all teachers 100 percent agreed upon to be necessary for students to possess in order to be successful online are reflective in their grades. Students lack these skills are reported, from the focus group, as struggling in their online classes.

Positive 3: New Tools

Teachers have developed, or discovered, new tools to utilize in their classroom to solve some of their challenges. Teachers have created attendance grides so they can take attendance on paper during class. They can easily mark changes if an online students comes or leaves during the class meeting. Attendance is then recorded online with PowerSchool later during the day.

Some teachers put assignments on Teams in a certain format that allows them to monitor their students' progress during class. This allows them to see if their students are doing any work and pin-point potential problems. The teacher can go on a student's assignment and provide assistance whether they are at home or at school. One teacher mentioned spending money on Teachers Pay Teachers every week rather than having to create custom content that is ready for online learners to save her time.

Another teacher made a test proctor form. Tests are either mailed or emailed to parents and the parent is responsible to administer the test. Since flexibility is an important skill for

teachers (93 percent of teachers agree or strongly agree), students are able to take their tests whenever their parents are available to monitor.

Limitations of Answers

Teachers may have responded differently if they completed the study on a different day. For example, they might have responded more negatively during the focus group or survey if they had a particularly bad day or good day. The depth of the survey questions was limited unless the teachers completing the survey chose to type in a more detailed response which seven did for student skills and eight for teacher skills. A limitation from the focus group was the limited amount of time for each participant to respond. If some participants talked too long, they took up the talking time of others or made less time to ask questions during the 45 minute allotted time.

Literature Relationship to Answers

Overall, the findings from this study relate to previous research and do not contradict former studies. Former research that highlights the importance of self-efficacy in online students matches the findings from previous research (Bradley et al., 2013; Lombaerts et al., 2019). These studies found that self-efficacy skills are dependable predictors of academic success in online courses and that highly self-regulated students will achieve higher outcomes in their courses. Studies finding the excessive amount of time is reflective in the exhausted expressions from the focus group and remarks about not having enough time (Lin et al.,). Teachers remarked that students who were doing well while in school are still doing well online, where students who were not doing well in school are still not doing well online. Online schooling, according to research, is not a good fit for students who struggle academically. The previous research from Denaro et al. (2019) found that taking online courses as recovery credits typically results in

failing the online course. Online learning should be flexible to students which will now be offered to online students through Edgenuity next semester. According to Norton and Hathaway (2008), the online learning experiences should take advantage of the flexible learning environment offered through online courses.

Announce

In the Announce stage, the answers (i.e., data analysis results), along with applicable potential implications and limitations, are communicated to appropriate stakeholders.

Stakeholders to Inform

Everyone who works at this school will benefit by being informed about the answers revealed through the data analysis. Teachers, administration, and board members will benefit the most if they can take the answers and make positive changes to the school.

Information for Stakeholders

The answer to the four research questions will be shared with all stakeholders. I will also address and explain any limitations that have been revealed through this study and the percentage of participation of high school teachers.

Time Frame for Informing Stakeholders

Each stakeholder will be informed of the results in December when my data collection and analyzation is complete. This will also be after I have announced my findings to my graduate colleagues.

Procedure for Informing Stakeholders

The final results will be presented to my stakeholders in an easy-to-read format. I will make a two-page poster on Canva which will catch their eye and focus on the main points. My complete results will be posted online on my website where everyone has access to read it in its entirety. I will offer to share these findings at the Career and Technical Professional Learning Conference held in August of 2021.

Apply

In the Apply stage, decisions are made and actions are taken based on the answer, limitations and implications of the answer, and applicable discussions among stakeholders.

Decisions and Actions

There is a large knowledge gap about how high school teachers structure their blended classes so their students have a meaningful learning experience. The positives and challenges from this study offer valuable insight into blended classrooms and should be shared to help improve online learning. The positives of having one central online learning platform for the entire school district, proof of participation, and the other news tools created by teachers can be shared with other teachers through presentations or informative emails. The challenges need to be addressed and fixed to allow teachers to effectively teach online. All technology issues should be resolved quickly. Teachers should not be asked to teach online if they do not have the appropriate technology tools needed to do so (computer, document camera, microphone, etc.). If a school is exploring online learning, they should research other schools that already teach students online to find the best technology tools to utilize in their classrooms. Schools should also not purchase resources without first asking the teachers at their school what their specific needs are to teach online. Teachers need training not just on the technology they use but also about best practices for teaching online. This training should include how to assess the learning of online students and how to engage both in classroom and online students simultaneously. Lastly, schools should create and enforce online attendance policies. A district-wide attendance policy for online learners will ease the frustration teachers are experiencing with online learners coming and leaving during class meetings. This will also provide consequences for excessive absences throughout the semester.

Importance of Decisions and Actions

Teachers cannot teach students online if they do not have the resources to do so. This includes functioning computers, document cameras, mics, etc. Teachers also need training, not just on the technologies they will use but also on best practices for teaching online. It is important to make sure students have the necessary skills to be an online student. If they are lacking self-efficacy or computer skills, they will struggle in the online class and possibly fail. This would result in them having to retake the class again in the future and also make them feel as if they are inadequate in the course when really, they just might be lacking the necessary skills to learn online.

Cautions for Decisions and Actions

Cautions that may need to be considered before acting because of this survey is to realize that every student and teacher is different. This is only one small study and though it may be a great start for a larger research study, it is too small to make large generalizations to a large body of people. Caution should also be taken before any changes are made before consulting teachers to ensure that the changes will improve their livelihood at school.

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Appendices

Appendix A

Focus Group Protocol

Number of Participants

- Six

Selection Criteria

- Stanley High School teachers grades 7-12

Selection Process

- Teachers were invited by sending an invite email to all teachers for grades 7-12

Semi-Structured Focus Group Questions

- Engagement Question
    - What is a typical class period like for you when you have both in class and online students?
- Exploration Question
    - Has your school provided you with what you need to teach effectively online? If not, explain to me what you need.
- Exit Question
    - Is there anything else you would like to add that you doing in your classroom that is going well with both online and in person students?

Appendix B

Survey Protocol

Online Student and Teacher Skills

You are invited to participate in a research study of Meaningful Online Learning Experience. This study will be completed by Kendra Evensvold, Department of Teacher Education Kinesiology through Minot State University in Minot, North Dakota. The purpose of this research study is to examine the ways teachers structure their blended classes so their students have a meaningful learning experience.

Participation in this study will take no more than ten minutes. Your responses will be confidential and will only be used for research purposes. No personally identifiable information is asked of you in any part of this study.

If you chose to participate in this study, you will complete an online survey. There are no known risks to participating in this study. The benefits of participating in this research include bringing attention to the current learning environment in blended learning classrooms where teachers are teaching both students in class and online.

Your participation is voluntary. You may withdraw from this research study anytime up until the survey is submitted.

If you have questions about the purpose of this study, please contact Kendra Evensvold at Kendra.Evensvold@k12.nd.us.

This study has been approved by the Minot State University Institutional Review Board as exempt research. If you have questions concerning your rights as a participant in this study, please contact Dr. Jynette Larshus at 701-858-4324 or irbchair@minotstateu.edu.

Completion and return of this survey implies you have read the information in this form and consent to participate in the research.

Mark the extent to which you agree or disagree that each of the following skills is important for a student to possess to be successful in an online learning environment. *

	Strongly Agree	Agree	Disagree	Strongly Disagree
Computer Skills	○	○	○	○
Self-efficacy	○	○	○	○
Time Management	○	○	○	○
Communication Ski...	○	○	○	○
Focus	○	○	○	○
Motivation	○	○	○	○
Proper Learning En...	○	○	○	○
Organization	○	○	○	○

Is there anything else you would like to add that is necessary for a student to be a successful online student?

Long answer text

Mark the extent to which you agree or disagree that each of the following skills is important for a teacher to possess to be successful in an online learning environment. *

	Strongly Agree	Agree	Disagree	Strongly Disagree
Time Management	○	○	○	○
Quick response to ...	○	○	○	○
Preparation	○	○	○	○
Creativity	○	○	○	○
Organization	○	○	○	○
Patience	○	○	○	○

Is there anything else you would like to add that is necessary for a person to be a successful online teacher?

Long answer text

Appendix C

IRB Approval

Notice of IRB Approval

Name of Principal Investigator: *Kendra Evensvold*

Name of Student Investigator: *Nathan Anderson*

University Address: TEK

Title of Project: Meaningful Online Learning Experience

Protocol Number: 2120

The above project has been reviewed and **Approved Exempt** by the IRB under the provisions of Federal Regulations 45 CFR 46.

This approval is based on the following conditions:

1. The materials you submitted to the IRB provide a complete and accurate account of how human subjects are involved in your project.
2. You will carry on your research strictly according to the procedures as described in materials presented to the IRB.
3. You will report to the chair of the Institutional Review Board any changes in procedures that may have a bearing on this approval and require another IRB review.
4. If any changes are made, you will submit the modified project for IRB review.
5. You will immediately report to the IRB Chair any problems that you encounter while using human subjects in your research.

Good Luck with your research!

Dr. Jynette Larshus
IRB Chairperson
irbchair@minotstateu.edu

Reflection

This is a reflection on capstone project planning and implementation through lenses of Capacity, Passion, Relevance, and Presence.

Capacity

At first, I was intimidated by the length of this survey, but I do have the capacity to finish this capstone project! I feel I did well with the research because I did a lot at the beginning of the class. The hardest part was the analyze stage since I am making assumptions about what my study will find. I feel that this will give me a greater capacity to conduct future research. The only limitation I have is the one I've maybe placed on myself. I've always love qualitative data and so that is the way I am going. I do have a little mixed data so I am branching out that way.

Passion

I am passionate about this project because it has the potential to affect my working environment. I was most passionate about the research and my research questions. I have the least amount of passion for analyze. Overall, going to grad school has made me evaluate every sort of "best practice" pushed to me by my school or another other teacher because I do not believe it and I will not change to it unless it is researched based. My first-year teacher mentor used to always says "research says" and I thought it was so annoying. Now I'm over here like "research says" and I just love it! Oh you think students should take an online college course as a junior even though they have a low GPA and constantly have missing assignments, well, research says that they will most likely struggle and that they have not developed the necessary self-efficacy skills to be successful in that course. Maybe try again next year.

Relevance

This project could not be any more relevant to me because of the topic I chose. I am glad I finally found a topic that was of interest to me and that has the potential to change my school for the better. I really hope my administration listens to the results and decides to make changes based on what the teachers are saying. They are not good at that, at all, so my expectations are low.

Presence

I was the most present on this project at the beginning and was the least present the past two weeks. It was hard since I was not able to attend meetings and watching recordings just are not the same. I had about two weeks where I felt like I should be doing something. However, I kicked it into gear and I'm back. I also got a little confused since we did IRB forms before this, but that was my own misunderstanding.