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Effectiveness of Integrating Technology for Improving the Post-Secondary Skills of Students with a Graphic Novel Based Curriculum

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**Effectiveness of Integrating Technology for Improving the Post-Secondary Skills of
Students with a Graphic Novel Based Curriculum**

By

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A capstone project submitted in partial fulfillment of the requirements for the degree of
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CHAPTER ONE

Introduction

Context

Technology has forever been developing and advancing our society, but when the coronavirus hit our world three years ago, everything changed. The way technology is used has been altered, and we find ourselves having to constantly be up to date with the latest trends and technologies to integrate into our classrooms. More and more we are relying on technology being a part of our daily routines in the classroom and having a significant role in the planning and implementation of activities and lesson plans. Students and teachers both now live in a world where students learn, function, and communicate with the help of technology. Students cannot imagine a world where they do not have progressive technology on their side. Teachers must use this to their advantage by incorporating technology into the classroom to keep up with students' engagement levels. Andrews (2021) pointed out in their research that this is all students know and that students in classrooms today have grown up in a technology-driven world where information is just a click away (p. 2). Bennett, Maton, and Kervin (2008, as cited in Andrews, 2021) noted in research that there is a new generation of students entering the education system. The research team labeled the new students as "digital natives" or the "Net generation" and defined the students as being immersed in technology all their lives (Bennet, et al. p. 6). Because of this, the question I pose is: *How can high school teachers design a unit plan, centered around a graphic novel that effectively integrates*

the teaching of technology skills which students can apply in their post-secondary experiences? This question guides this Capstone project.

Personal Journey

As someone who relies heavily on technology and uses it every day, I can see the impact it has on my life. Throughout my academic career, I have had various access to different modes of technology, including an iPad and laptop. Shifting from visiting school computer labs to writing papers to have all assignments posted on online school websites (Schoology, Google Classroom, Blackboard, and Canvas) and access to an iPad has been an adjustment. It is difficult to think about what school was like without unlimited access to technology. Even with all this access to technology, when COVID-19 gripped our world and forced my college classes online in the Spring of 2020, I was ultimately in despair facing how much of my time now revolved around sitting behind a screen. I constantly found myself wishing to have classes back in person. Frankly, I am not sure how I passed those classes, and I left that semester feeling as though I learned very little. I missed and needed the social interaction that comes with having classes in person. I cannot even begin to imagine the way this affected students and teachers in elementary, middle, and high school settings. Returning to campus after that semester was a difficult transition.

Looking at the way COVID-19 shifted the importance of technology in the classroom is difficult. I see a heavy dependence on it, and how it shifted the perspective of students and their class participation. With that said teachers have begun to find new ways to use technology in their everyday lessons. I believe that students' attention spans have suffered greatly and their ability to use this technology to do anything and

everything has grown, but at a cost. In the classroom as a student teacher this past fall (2022), I saw these things firsthand. Specifically, I witnessed deficits in the attention spans of students concerning their ability to sit through lessons where technology is not used. I saw that students needed additional breaks throughout the day. Their social skills had also suffered; it is now difficult for students to interact with their peers in both small and large group discussions. Students need additional structures in place to participate in class discussions. They have become accustomed to writing a few discussion posts but never having to hold conversations with their peers.

Another challenging part of online learning was how to monitor cheating. Noorbehbahani et al. (2022) said, “one of the most critical challenges in online learning is to mitigate and handle cheating” (p. 8415). In the research, Noorbehbahani et al. (2022) mentioned that another societal factor influencing cheating behaviors is the technology evolution that strengthens cheating motivation because technology brings about increased access to cheating resources (p. 8427). Although there have been a handful of problems due to the increased usage of technology in the class, there is also a positive side to incorporating technology into the class. Technology has allowed students to become more versed in this area and has allowed for better-planned lessons and more engaging activities. With this being said, I want to focus my project on how to create an engaging unit plan that implements the use of technology in the classroom. Integrating specific topics like digital citizenship, and online collaboration skills to students for their futures beyond education.

Professional Journey

As mentioned above, there has not been a time since I was entering high school when technology was not present in the classroom. Either having assignments online or having to meet virtually with groups to complete work, technology was involved. Thinking back to high school it is easy to see now how addicted my peers and I were to our phones and other access we had to technology. Students would go as far as hacking their school iPads so that they could have social media apps on them, even though that was prohibited. I also saw many of my peers fall to the temptation to cheat on a variety of assignments.

During the time I spent student teaching, I noticed that students have more dependence on technology and their addiction to their phones. It is especially challenging to have them put their phones in their backpacks for a class. Students would rather have me just tell them to check Canvas for their assignments and send them on their way rather than for me to spend class time teaching them content. As a young teacher, I had a hard time getting and keeping my students engaged and present in the lessons. It was hard finding a healthy balance between the content I was teaching and getting the point across. Some days it was easier to have students put away all technology, and other days it was simply easier to have students play online learning games like Kahoot and Blooket to learn and understand the material covered that day. Kahoot and Blooket are educational learning games, both of which I've personally used myself. They can be used for multiple choice and true/false questions, in addition to having students compete against each other. Both provide healthy amounts of competition between students either in groups or individually. One thing I noticed during this though, was that it was extremely easy for

students to have multiple tabs open, and switch back and forth. Additionally, it was surprising to see how many students would try and hide their phones under their desks to continue texting their friends, or mindlessly scrolling their social media during class.

Currently, I am a substitute teacher with Teachers On Call, and in this position, it is extremely hard to get students to put their phones and iPads away to complete the work their teacher has left for me to assign to them. Frequently I found myself in classes where students do not take substitutes seriously. It is in those classes where it becomes exhausting to have students complete the work left for them. Instead, students would rather waste class time being off task and disregarding the work they are needing to get done. In some of the school districts I worked in, it was required for the substitute teacher to grab a school computer and pull up the slides left by the teacher. Even in these classrooms, I can see how COVID-19 has impacted the students, and their ability to engage with the class. But even with all this, I have still seen how impactful it can be for students to utilize technology in the classroom, and how it can benefit a wide range of students.

Societal Significance

I believe that one of the largest impacts that COVID-19 has had on students would be their lack of social skills. This is due to having upwards of 2 years of strictly online learning and little to no human interaction with their peers. I felt as though the 9th and 10th graders I taught in the Fall of 2022 were socially and sometimes emotionally actually 6th and 7th graders. That was the last true year of school they had before the coronavirus troubled their lives. Because of the way our school systems had to shift their learning plans during this time, technology became heavily relied on during this time.

This was crucial to enforce that learning was still happening for students. But it is not for lack of whether or not students were learning during this time or just going through the motions. For I believe it was the latter of going through the motions. Students were missing out on social interactions with their peers when the whole world turned to online learning. It was very easy to spot this among students because of how uncomfortable they were with interacting with their peers during small and large group discussions or activities. It was evident as well when students were asked to speak in front of their peers, for which they quickly fell apart.

Another impact would be the overall miscommunication and disengagement between students and the school system. Students were turning towards social media and other outlets to communicate with each other, yet were not willing to do so in a traditional classroom setting thus causing tension and anger between all parties involved. Students are disengaged in the classroom not only with wanting to learn but with their peers and teachers, due to their attention spans having suffered immensely because of online learning during the pandemic. It is tough to get the grit back into students' lives, of wanting to get their work completed and the drive of being successful rather than just doing work to get the grade. I noticed this issue with both my 9th and 10th graders during my time as a student teacher, and it was hard to put more effort and time into wanting students to succeed when they did not want it for themselves. I think a lot needs to be rebuilt, one being the trust between students and their teachers. Another is the motivation that students have to be successful in their classes and put forth effort toward their education.

Summary

The journey to my research will lead me to work towards answering the question: *How can high school teachers design a unit plan, centered around a graphic novel that effectively integrates the teaching of technology skills which students can apply in their post-secondary experiences?* In the next chapter, I am furthering the research of building an engaging unit plan centered around a graphic novel for high school ELA (English Language Arts) classrooms. While paying particular attention to how to integrate technology effectively and intentionally— including teaching technology skills that students can bring into their future. Chapter 2 contains a review of literature that will guide my understanding of the best practices for using technology in the classroom. The literature review touches on perspectives regarding managing student attention spans, teaching to their shorter attention spans, and preventing academic burnout. Next, this literature explores the benefits of teaching students the use of a graphic novel, and how to teach graphic novels. Chapter 3 provides a detailed explanation of my project, as well as the research involved with the planning and execution of my project. Chapter 4 consists of a reflection written on the project and my experiences.

CHAPTER TWO

Literature Review

Introduction

Teachers everywhere are trying to navigate the world of technology and its effectiveness in the classroom, all while managing students' attention spans, burnout, and the transferable skills that technology can pose. Students have various ways they prefer to learn, process information, and how they apply it to real-world situations as well as in their own lives. The goal of this project is to incorporate something enjoyable and unique, a graphic novel, that will focus on the best practices of using technology efficiently all the while paying attention to students and their workability. A second goal of this Capstone project is to teach students technology skills they can bring into the workforce or post-secondary school. This literature review aims to better understand my research question: *How can high school teachers design a unit plan, centered around a graphic novel that effectively integrates the teaching of technology skills which students can apply in their post-secondary experiences?*

The research will first provide an overview of students' attention spans and their burnout in the classroom. The section has information on how to manage attention spans in the classroom with different models to put into place to keep students engaged in class. It also offers helpful information on managing burnout, and different strategies and models teachers can use to prevent and manage burnout among high school students. To combat burnout and students' attention spans, we must first learn what is causing these things, and learn the best practices to put into place to benefit students.

Next, the research will focus on the best and most efficient practices for using technology in the classroom. The research will present ways to navigate the technology used in the classroom, as well as how technology affects interactive learning. Then the literature review will focus on the types of transferable technology skills to teach students, and how to teach students those skills. Some of the research will also talk about the importance of doing this, and how it will benefit students to have these skills long down the road. The concluding section of the literature review will bring to light the research around the use of teaching a graphic novel to students and the benefits of doing so. It includes some of the basic information on how to read a graphic novel and the important parts that make a graphic novel unique.

This capstone project is focused on creating an effective unit plan incorporating a graphic novel that will not only integrate technology but also give students useful technology skills. To understand if my project will be successful and beneficial to students, I need to further my understanding of what truly engages students while managing their ever-changing attention spans, managing student burnout, and the best technical skills to teach students.

Student Attention Spans

A student's attention span is very important in classroom management. It determines how much information a teacher can present to students before it starts to get lost due to students zoning out, and finding other distractions. Bradbury (2016) found that “lecture sessions should last no more than 10–15 min to accommodate the biological set point of a student’s attention span” (p. 509). An important note in dealing with classroom management and attention spans is that students are now more likely to think they can

effectively multitask, so providing them with a distraction-free environment to encourage them to be focused in class and hold themselves accountable for their work is an important goal (Weber & Keim, 2021, p. 12). Thompson et al. (2021) also performed a study that brought the effectiveness of designing and using videos in lessons in segments rather than larger chunks to light. They share with their audience:

It is commonly claimed that students have short attention spans and should not be expected to watch a video longer than four-to-six minutes. Thus, instructors and educators are encouraged to break content into segments based on arbitrary length limits rather than pedagogical considerations. (p. 175)

Knowing this, teachers should be working towards producing lessons that will keep students engaged and on task. It is valuable to be able to recognize the student's needs, and how to best present information to them to have their learning experience be the best it can be. Students' attentiveness in a classroom gets interrupted more "frequently than not hence why their attention spans are relatively low" (Pillai, 2021, p. 938).

One way to teach students and their short attention spans would be to "mix up teaching methodologies which helps students more readily engage with learning outcomes" (Weber & Keim, 2021, p. 11). Being able to present information to students in a wide variety of ways will prove to be helpful. Students can figure out how they like information to be presented to stay engaged in class. By doing so students can voice their preferred method of viewing and learning the material. It is important to note that while it is beneficial to offer students different ways to view and learn content, not all students are the same, and attention spans can change and differ from day to day. Students' attention spans vary from individual to individual and are widely influenced by factors like

motivation, emotion, anxiety, fatigue, enjoyment, and time of day among others (Ellah et al., 2019). No two students are alike in how they focus in class and retain information, and it is important to note the research done about attention spans and the use of technology. Subramanian (2018) noted a person's "attention span is connected directly to the presence of mind" and "we're having trouble focusing in general on what is in front of us" (p. 2). Subramanian (2018) conducted a study that shows that certain age groups struggle with phone usage:

The study also looked at how we use our smartphones and found that 77 percent of 18-24 year olds reach for their phone when they are bored, 52 percent check their phone every 30 minutes or less, and 79 percent use their phone while they are watching TV. (p. 2)

Given these numbers, it is quite frightening how often young adults reach for their phones, and if this leads correlates to the data that would be presented for 14-18-year-olds. They are scared that if they are offline for too long, they will miss out on something. Having this information begs one to wonder what an educator can do to improve this FOMO (fear of missing out) in their classroom. A study done by Karch in 2015 noted that the mobile phone is in the hands of 40% of junior high school students, 75% of high school students, and 90% of college students (Prensky, 2005, as cited in Karch, 2015, p. 8). While this data is almost 10 years old, access to technology for kids has gone up, which suggests that this data too has increased. Gitnux (2023) found in their data that in 2023, 95% of high school students have access to a mobile phone (para. 12). This just goes to show that if students have access to this kind of technology, then educators should be focusing on the implementation of it in the classrooms. Allowing

students to be engaged in the class with a mode of learning they are more familiar with can prove to be beneficial.

Furner, et al. (2005) put together a resource for mathematic teachers with different teaching strategies to implement in classrooms to keep students engaged, and present in class. Many of these strategies can be transferable to an ELA (English Language Arts) classroom for the same purpose. One of their strategies is to use a variety of ways to coach students when applying problems to daily life situations. This would be giving students different ways to connect the material to their own lives, and using real-life situations when presenting that content to students. Students will be more likely to engage in class if the content is relatable to their own lives. Using different multimodal approaches that incorporate multiple intelligences caters to students' short attention spans because they are not merely sitting through learning the material (Furner et al., 2005). By connecting material and content back to students' lives, we are giving them something to connect the material back to, in hopes that it will increase their memory of the content.

Another advantage of doing this is that students can have more to contribute to the class when the material is similar to real-world experiences because they might have stories to share with their peers, thus increasing classroom engagement and participation. This research is significant because it allows educators to understand how having relatable content to teach students can prompt classroom engagement. Which can lead to having more interactive lessons to present to classes. Teachers need to be able to recognize that students' ability to perform in the classroom will depend on their willingness to learn, and their desire to do so. The next section will present the research

on teaching while dealing with student burnout. Student burnout is another important factor that teachers should be aware of, as it can directly affect how students learn.

Student Burnout

Burnout is the feeling of fatigue due to an extended amount of academic stress that impacts a student's ability to have motivation, interest in school, lack of creativity, and decreased academic performance. It is becoming more prevalent among students, especially post-COVID-19, and the lingering effects the pandemic had on students. Mu and Guo (2022) studied the effect of online learning and its connection to student burnout. Mu and Guo (2022) found that “isolated” online learning is more likely to lead to students’ burnout, and that burnout “greatly negatively impacts learners’ learning effect and physical and mental health” (p. 240). A similar study conducted by Sert (2018) showed that secondary school students’ burnout was examined in terms of academic self-efficacy, parental monitoring, social support, leisure activities, and demographic characteristics (p. 2315). Student burnout can affect their attention spans as well because their minds are elsewhere and not present in the classroom. As an educator, it is crucial to be aware of the different outside factors that affect students and their learning, and how we can best teach them in the learning environment. In addition to what has already been found, a third study recalls burnout as “a result of high levels of school stress and is characterized by the student feeling continually overwhelmed, attributing little value to the school and feeling detached, not enjoying school activities” (Molero et al., 2021, p. 2).

There are many ways to describe burnout but teachers need to be able to create safe and positive learning environments for students that will allow them to succeed. If

students feel like they can learn in the safe and positive community teachers create for them in the classroom, they might feel less anxious and burnt out. Understanding student attention spans and burnout will better prepare educators for creating unit plans that keep students engaged and prepared for the learning that will happen in the class. By doing so, this ultimately allows teachers to craft a project that will benefit students in the best way possible, by teaching and appealing to their specific needs to make sure they are being successful in the classroom. It is important to grasp the ideas that students have suffered from shorter attention spans and the effect that burnout has on them so teachers can educate themselves with the best and most effective uses of technology in the classroom.

Effective Use of Technology

In this section, the research will cover the importance of using technology in the classroom and doing so successfully to benefit all students. Along with uncovering the best tools to use in the classroom, as well as when and where to use them in the classroom during a unit plan. Using technology in the classroom is a huge benefit because it is something that most if not all students are familiar with. Doing this successfully for your students can promote lesson plans that will further classroom engagement and participation. Alreiahi (2021) noted in their research that studies have continuously shown the positive benefits of technology integration, including iPads, smartboards, computers, and other handheld devices (p. 12). By including technology in the classroom and planning on using it, educators need to find the balance between using it and relying on it to manage and run their classrooms. With this issue, Alreiahi (2021) found that:

For instance, successful technology integration requires practice, time, and commitment as well as a sense of expertise in the correct way to implement it in the classroom. This has been difficult because faculty frequently describe that lack of time as a barrier to effective use of these technologies in the classroom. (p. 16)

It takes time to learn the best ways to integrate technology in the classroom and master different types of technology that will produce the best results. It is also increasingly easy for students to have access to technology. Nearly 95% of teens either own a smartphone or can borrow one (Gitnux 2023, para. 12). Hazar et al. (2021) noted in their research that “given the widespread use of the internet, smartphones, computers, tablets, gaming systems, and multimedia devices, it has become very important to teach students how to evaluate and interpret technology effectively and use it effectively” (p. 289). Although many students access the internet for entertainment and social connections, they can also use mobile devices for learning (Burke, 2021, p. 1). Teachers need to be able to find ways to use these resources in their teaching to promote student learning.

In a 2022 study by Mosher, about the integrational values of technology with social skill instruction, she stated:

In classrooms where teachers must provide instruction in social skill acquisition and development without training, technology can help deliver systematically instruction utilizing research-based methods... This increased success with technology-delivered social skill instruction may be due to the decreased anxiety and increased motivation students report when learning through technology” (pp. 61-62).

By reducing students' stress and anxiety levels by including technology in the instructional piece in the classroom, we are creating safer environments for our students to feel like they are learning, and thus doing so sufficiently. Fulton (2022) stated in their research that technology integration should be thoughtful, well-planned, and situated in research-based practices (p. 5).

As technology evolves, the teacher's knowledge of this resource should be as well. Messinger (2021) found that focusing professional development on teacher perceptions of technology integration may lead to higher-level usage of technology (p. v). Some teachers are hesitant to incorporate technology into their classrooms because they lack knowledge about the best practices for utilizing technology in the classroom. Andrews (2021) backed this in their research “Many teachers are intimidated by technology due to their lack of skill, consequently, struggle to integrate it into instruction” (p. 1). For students to have adequate education, we need to make sure that teachers are up to the challenge of teaching ideas and concepts to our students that they are still learning to grasp. Teachers should be aware that this is okay, and that by entering a classroom that is heavily driven by technology, our students can be some of the best teachers when it comes to technology used in the 21st century. Although this can be hard for teachers to comprehend, students truly can be our best ally.

Messinger (2021) asked teachers about the barriers that hinder their technology implementation and discovered that 23% of surveyed teachers identified their knowledge or skills as the predominant barrier (p. 3). Messinger (2021) also brings up that the shift from lecture to coaching with technology is more easily achieved by teachers who already believe that teachers should facilitate learning rather than primarily use lectures

(p. 3). There is more of a shift from a typical lecture classroom, to positively integrating technology into the learning environment for students. This will grow when more educators become better equipped and prepared to use technology conclusively in their classrooms.

The ISTE Standards (2022) serve as a framework for innovation and excellence in learning, teaching, and leading (p. 2). ISTE (International Society for Technology in Education) has standards for both teachers and students. One of their standards for teachers is labeled *Citizen*, which connects back to being present in the digital world. ISTE states for this standard “teachers inspire students to positively contribute and responsibly participate in the digital world” (p. 5). Blanketed under this standard, teachers should:

- 2.3.b. Establish a learning culture that promotes curiosity and critical examination of online resources and fosters digital literacy and media fluency.
- 2.3.c. Mentor students in the safe, ethical, and legal practice with digital tools and protection of intellectual rights and property.
- 2.3.d. Model and promote management of personal data and digital identity and protect student data privacy. (p. 5)

These are standards for teachers to be accountable for doing each of the subtopics above with their class, or in their lesson planning so their class can appropriately learn about or have lessons that encourage their discovery of online learning tools. Alongside integrating tools that students can use in the classroom that revolve around technology, “the utilization of digital libraries, dictionaries, and thesauri has speeded up learning and enhanced students’ vocabularies substantially” (Yanwar et al., 2022, p. 149). Word

processing programs are user-friendly and have become essential applications for reading and writing (Yanwar et al., p. 149). There are so many digital tools out there to aid teachers in their craft and that can be beneficial to introduce to students.

Once teachers have implemented the use of technology in their classrooms, they need to be aware of the over-exposure to technology that students will have. This proved to be a struggle in a study that Amaechi (2021) performed. They found that students frequently used their mobile phones for non-educational purposes that detracted from their and their classmates' learning. However, many students used their mobile phones for educational and non-educational uses that supported their learning inside and outside of school (p. ii). It can be valuable to find the best ways to use technology in the classroom because if not problems with students' attention spans, and their ability to multitask affects their performance in class which Amaechi (2021) looked into. Amaechi (2021) found that "some of these students argued that using their phones during class did not distract them and that they could multitask... this type of multitasking in the classroom can indeed negatively impact attention and retention" (p. 20). Now, this might not be every student in the class, but if most students are multitasking while learning specific content, the odds the teacher in the room will need to reteach the material is high. Bjerre-Nielsen et al., (2020) state "If more than half of the students are not paying attention is high because it has been established that in-class multitasking with electronic devices can limit short-term knowledge retention" (para. 2). When teaching and presenting information to students, educators want to make sure students are paying attention adequately so that reteaching does not occur.

Brown (2014) put together a framework that described teachers in nine different approaches to dealing with phone usage. Amaechi (2021) listed three as, being from “one on each end of the spectrum and one in the middle” (p. 22). Amaechi (2021) went on to cite Brown’s (2014) work:

On the most restrictive end of the spectrum are teachers who take a principled stance that universally prohibits mobile phone use in their classroom. These types of teachers are *prohibitionists*. In the middle of his spectrum, he described teachers that had no classroom policy at all about mobile phones in the classroom. Brown labeled this approach as *ostrichism* or putting one’s head in the ground and ignoring the issue. At the end of the spectrum, Brown described teachers that embraced and encouraged student use of mobile phones in their classrooms. These teachers, whose approach he labeled *permissivism*, employed a social justice approach and believed that students were digital natives for whom their mobile phones are essential. (p. 22)

Recognizing just these three approaches strengthens Amaechi’s (2021) statement that “while teacher philosophy and attitude is important, successful classroom implementation will be challenging without a support and policy framework provided by the school and district” (p. 24). Educators need to be able to recognize that yes, while teachers will fit into a stereotype about accepting the use of mobile phones in their classroom it will be challenging to live on one side of the argument (yes or no to phone usage in the classroom) without having support from your administration. Having backing from outside factors like parents, the community, and students themselves will also prove to be

valuable because the classroom will run smoothly when everyone is on board with the concepts being taught in addition to how they are being presented in the classroom.

Even with some teachers being opposed to using mobile phones or any form of technology in the classroom, Hazar et al. (2021) reported that it is the duty of schools to integrate technology into learning-teaching processes and curricula, to teach students how to evaluate, interpret and effectively use information, to use technology in classrooms by supporting technology, and to teach the correct use of technology as a learning tool (p. 289). Educators need to be able to put their differences and opinions away surrounding the usage of technology in schools, so we can give our students an equal and fair opportunity to learn, and move onto their futures feeling prepared.

Once there is a recognition of using technology in the classroom and identifying the best ways to present and use it with our students, then learning and engagement come. If students' lives are surrounded by their use of technology, it will be a positive experience for them if as teachers, we're able to bring a sense of similarity to our classroom, by integrating technology. Amaechi (2021) noted in their research that there was "an increase of student engagement as one of the major strengths of integrating mobile phones into the classroom curriculum" (p. 19). By bringing familiarity to students in the classroom, teachers can increase participation and engagement in the classroom, which is what they want.

Yanwar et al. (2022) in their study, compiled a list of the advantages of implementing educational technology in the classroom. Their list is shown below:

1. improving the whole learning process (Lee & Spires, 2009, as cited in Yanwar, 2022, p.150)

2. providing learners with subject-matter knowledge, encouraging meaningful learning, and increasing professional productivity (Tomei, 2005, as cited in Yanwar, 2022, p.150)
3. resulting in more innovative teaching and learning methods (Shapley et al., 2011, as cited in Yanwar, 2022, p.150)
4. increasing and developing students' outcomes, self-esteem, and attitude (Lei & Zhao, 2007, as cited in Yanwar, 2022, p.150)
5. enhancing students' comprehension and encouraging students' engagement (Geer & Sweeney, 2012, as cited in Yanwar, 2022, p.150)
6. influencing students to learn actively and motivating them, resulting in an effective learning process (Saidin et al., 2015, as cited in Yanwar, 2022, p.150)
7. positively impacting students' learning mastery and having a substantial development and supportive effect (Abykanova et al., 2016, as cited in Yanwar, 2022, p.150)

Students obtain great benefits from implementing educational tools in the classroom. In this way, teachers create innovative teaching methods that impact students' understanding, learning mastery, self-esteem, motivation, attitude, and engagement (Yanwar et al., p. 150). Implementing technology into the classroom not only benefits the students but also the teachers. It impacts the teaching being done in the class, and the learning process as well. This information is crucial to the understanding of my research question because it gives me a deeper insight into the best ways educators can utilize technology in our classrooms to have maximum impact and learning for our students by

still being intentional with what we teach our students. This section laid out some of the best practices for using technology in the classroom. The next section will discuss specific technical skills that should be taught to students so they can leave the classroom feeling well rounded, and prepared to take on their futures.

Teaching Technology as a Transferable Skill

In this section, the research will uncover beneficial skills to teach students that will transpire into their futures either in college or their careers. Along with this, the research will reveal useful skills to teach students in my project. As well as new ways of presenting technology and introducing it to students as a very helpful tool. Being able to give students these skills ahead of their time outside the classroom can be extremely beneficial. Egresitz (2020) stated in his research that having teachers present skills like digital citizenship to students can better prepare them not only for the digital world they are a part of already but provide them with analytical skills and dispositions that will last long after the final bell (p. 12). By teaching students these types of skills in the classroom, we are showing them that “there is a big difference between having skills—knowing how to use the internet—and having understanding—knowing the implication of using the internet” (Egresitz, 2020, p. 9).

Hazar et al. (2021) continued this trend in their research and noted the differences between digital skills, digital literacy, and digital competence. Digital skills are labeled as: “skills that cover the digital world. Digital media is frequently used in communication, learning, and production processes in today's learning, working, and entertainment environments” (p. 291). Digital literacy and digital competence were described as

The ability to perform certain tasks in digital environments. Literacy includes the ability to read and interpret media, as well as the ability to reproduce data and images through digital applications and to use new information obtained in digital environments. Digital competence was explained as “understanding the media, accessing information, taking a critical attitude toward the information being accessed, and communicating with others using various digital tools and applications... digital competence is strongly engaged with 21st-century skills for citizens to actively participate in social life. (p. 291)

All of these skills can be extremely valuable to teach students and will impact their lives now and in the future. These can be skills that allow students to perform at the highest ability they can in their future workforce or continue down their path to much higher education.

Again, Egresitz (2021) stated that by instructing students in digital understanding and digital citizenship, educators can provide students with skills and capabilities that will serve them and others long after graduation. These are skills that will last students a lifetime as well as skills they can teach others around them.

As mentioned earlier, the ISTE Standards (2022) are to serve as a structure for providing a holistic and comprehensive guide to transforming systems in order to transform the lives of our students (p. 2). Their second standard for students is labeled as *Digital Citizen*. This is described as a student who will “recognize the rights, responsibilities, and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical” (p. 2). Sub-standards under *Citizen* for students are:

- 1.2.a. cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.
- 1.2.b. engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.
- 1.2.c. demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.
- 1.2.d. manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online. (p. 3)

This is what educators should be working towards to get their students to grow and achieve. Wanting students to become digital citizens that are aware of their online surroundings is the standard we need to be teaching intentionally. These are important standards for students and teachers to be aware of in the digital age. This can add to the awareness students and teachers already have about the digital world while engaging students in positive learning.

In addition to teaching students how to be digital citizens with favorable digital skills, the challenge facing educators today is to prepare the 21st-century student to use technology for learning, collaboration, socialization, communication, critical thinking, and problem-solving (Andrews, 2021, p. 6). There are so many skills that technology can teach students and educators. Those skills can be used to prepare students going into a 21st century that heavily relies on people being able to work and depend on their technology skills (Fulton, 2022, p. 4). Edinger (2023) in addition to that, found from a recent report done by the National Skills Coalition that, “92% of jobs now require definitely digital or likely digital skills” (para. 1). Students need to be prepared for the

future, where technology is everywhere, and the world is changing at lightning speed. Fulton (2022) describes a blended classroom, which she describes as “combining online instruction with in-person instruction” (p. 10). In a blended classroom, where students are actively using their smartphones, “high school students engaged in blended learning reported a better understanding of the content and in-depth knowledge due to the inclusion of a technology device” (Rifa’i & Sugiman, 2018, as cited in Fulton, 2022, p. 12). Tucker (2012) stated in their research:

As the workforce becomes more dominated by jobs that require extensive technical skills, and more jobs opportunities are created and catered around how well someone can work with technology, allowing students to gain familiarity with mobile devices and applications can help them after high school as they will enter a digital world requiring them to use 21st-century skills (p. 19).

Allowing students to learn with their phones (and other sources of technology) in the classroom will benefit them down the road and having these skills can assist students in retaining a job.

Other research found the implementation of technology to be helpful in the development of students’ 21st-century skills (Young, 2012). Young (2012) stated that “blogging is a social networking tool that can be used in the classroom to promote better understanding of lesson content and collaboration amongst peers” (p. 14). There are a large number of jobs requiring the ability to present yourself online. Many new jobs surrounding social media marketing are popular with recent college graduates. Being well-versed in an area like blogging can help increase a student's ability to work with others, improve students’ skills in collaboration, as well as being used as a

communication tool, which can increase student proficiency with technology (Lei, 2010 as cited in Young, 2012, p. 13). Lawson (2021) brought up an important point in her research:

It is my responsibility to create digital citizens who know appropriate uses for technology and are prepared for a future that is led by technology. This preparation begins with me in the classroom with real-world applications or projects where students are actively learning. To help mold students to use technology in a way that advances their thinking and learning, I need to learn about new forms of technology, applications, programs, and devices that can bring innovation and interest to my students and my classroom. (De Silva et al., 2016 as cited in Lawson, 2022, p. 7)

Lawson (2022) put forward very critical ideas that will influence the way educators teach in the classroom when thinking about the futures of our students. Making sure that students are well prepared to enter a workforce that revolves around technology, and how well they can present themselves online. Egresitz (2020) in their research noted that teachers should be better at “preparing students not only for the digital world they are a part of already but providing them with analytical skills and dispositions that will last long after the final bell” (p. 12). This is what teachers are working towards, to make sure students are set up for success after they leave the classrooms. My research supports an effective unit plan that will incorporate technical skills to teach students for their futures after schooling. The unit plan will surround the teaching of a graphic novel. In the next section, research will be presented regarding effective practices for teaching using a graphic novel.

Teaching with Graphic Novels

Teaching graphic novels can be beneficial to students because they are reading and processing the content of the book in ways they might not be familiar with but prefer. Research from Bender (2019) brings up valuable points about the importance of introducing students to graphic novels. Bender (2019) describes this as “encouraging skills of making meaning for a text style they are not usually reading in the school setting, because of how heavily students are only reading “monomodal texts” (p. 1). Multimodal texts are written as “texts that include more than one mode (i.e., written text, images, audio)—which could be graphic novels, comics, picture books, or even videos” (Bender, 2019, p. 1). Monomodal as explained by Bender (2019) are “texts that include a single mode—such as a nonfiction article without visuals” (p. 1). By introducing graphic novels to students, we can introduce them to a genre of text that aids their multi-literacy training and development (Issa, 2018, p. 312).

There are several tremendous benefits to using graphic novels in the classroom. Miller (2012) put together a list of different reasons to work with graphic novels and comics in your classroom. One of those reasons is differentiating instruction. Miller (2012) described it:

Graphic novels and comics can be a great way to differentiate instruction for learners in terms of reading and also in terms of assessment. Perhaps you want to offer your students a graphic novel to support their reading of a chapter in a rigorous text. There are many graphic novel adaptations of classics out there. (para. 3)

Differentiated instruction is crucial in the classroom because it allows students to have a choice in their work, while also meeting the specific needs, interests, and strengths of the students. In addition to offering students differentiation in their instruction, reading graphic novels involves complex, multiple literacy skills and can help students develop as critical and engaged readers (Jacobs, 2007, as cited in Bender, 2019, p. 9). Incorporating graphic novels into your curriculum and lessons can not only offer another style of reading but allow students to continue furthering their skills in reading. When starting to teach graphic novels it is best to start at the beginning and explain the moving parts of what makes a graphic novel.

The layout of a graphic novel is part of what makes them interesting to read. Graphic novels have multiple panels and gutters from which readers make meaning. The center of a picture book contains one large gutter. Gutters are the white space in between the panels (McCloud, 1993; Thompson, 2008, as cited in Bender, 2021, p. 33). Within the gutters, readers have to draw inferences to better understand the story and the author's intent (Bender, 2021, p. 19). Whereas panels are the frames that contain the action. Together, panels work to help create an overall meaning. Oftentimes, panels are rectangular or square but sometimes the author will decide to create a different shape panel to help convey the meaning that time and space is divided (McCloud, 1993; Thompson, 2008, as cited in Bender, 2021, p. 31). While graphic novels are read left to right, and top to bottom if a reader is not aware of this it can skew their reaction to the text, and interpretation of the story. Because of this, authors may stray away from the traditional reading path to draw the attention of readers to a specific panel because it is a

more effective way to support the meaning of the text (Thompson, 2008, as cited in Bender, 2021, p. 30).

In addition to the gutters of a graphic novel, authors and illustrators think about how to structure and when a page turn is needed. The “weight” of a line can be thick or thin depending on how the illustrator draws it and for what purpose (Bender, 2021, p. 19). By teaching the basics and need-to-know information about graphic novels, you are setting your students up to be able to make meaningful connections to the text because they can interpret and understand the graphic novel in all its context. Bender (2021) described this as meaning-making: the result of a student engaging with a text, which is what we want our students to achieve when reading graphic novels (p. 33).

Another exceptional component of teaching graphic novels is the visual aspect. Teachers can find and see that students are surrounded every day by different visual aspects of life, and introducing them to graphic novels would be no different. As found in Wilson (2003) and cited by Issa (2018), comics are powerful modes of expression enabling teachers and students to express empathy and explore others’ cultures and history through vivid compositions of image and text. Comics provide a means to teach visual cultures, which in turn engage students in the connection between the traditional art classroom and world images (p. 311). Teaching and including graphic novels in your classroom as a choice for students to read can truly be beneficial for students, because of the many different aspects that it brings to students. It allows them to visualize more of the text, as well as still make their interpretations of the text. Graphic novels are more relatable for students, and it offers them another way of reading the required material. Although there is not much research out there that supports how beneficial graphic novels

can be while working with technology, I think because of how accessible they are to students make it an easier mode of learning for students, as well as introducing them to something different. Graphic novels offer teachers more buy-in from students because books like these are interesting to students because not only are they being tasked with reading, but they can read while looking at pictures, and not having to read many words.

Conclusion

The goal of this chapter was first to present evidence from studies that have been done surrounding the attention spans of students, as well as student burnout. The chapter then covered the effectiveness of implementing technology into the classroom and teaching technology skills to students. Lastly, the research uncovered what it means to teach with graphic novels, and how to do so. This research was provided to make an effort to answer the question: *How do teachers create an effective unit plan that integrates the teaching of technology skills students can use in their future post-secondary experiences?*

By presenting information to students with learning tools they recognize and are familiar with (iPhones, iPad, Computers) students are willing to learn and engage more in class. By having these resources in the classroom though, teachers are giving students ways to learn with technology they are familiar with, and hopefully encouraging them to be present in the class. Next, perspectives and viewpoints on the best effective practices of planning to use technology in the classroom were discussed. Different modes of technology to use, and how to keep students engaged and participating in classes where technology is utilized were different topics researched in Chapter 2. Research was then presented regarding the transferable skills that technology can teach students, like digital

citizenship within the classroom. Finally, the benefits of graphic novels were discussed, as well as the best practices for using graphic novels to teach, and how it can advance student learning by using these types of books in the class.

Chapter Three Overview

In Chapter 3, the project layout is discussed, as well as the explanations for why specific choices were made. The intended audience for this project is teachers or educators who are interested in putting together a unit plan that involves teaching students transferable technical skills. These are skills that students can use successfully in their futures. Inside the unit plan, a graphic novel will be used to help advance the teaching of these technical skills. The unit plan was crafted to be implemented in ELA (English Language Arts) classrooms but could be modified to be used in other classroom settings, with graphic novels being interchangeable or even using multiple graphic novels and offering students choices. The chapter will reference studies about curriculum planning, and framework to explain the choices made in the final project. Finally, a timeline was crafted that includes information about each section of the project.

CHAPTER THREE

Project Description

Introduction

Chapter 2 synthesized a variety of research that aided the discovery of the best practices for applying technology in the classroom, as well as what specific skills to teach students, so they leave the classroom feeling better prepared to take on their futures in the 21st century. It also strengthened the understanding of teaching students who have shorter attention spans, as well as dealing with academic burnout. This research provided a strong outline to address my research question: *How can high school teachers design a unit plan, centered around a graphic novel that effectively integrates the teaching of technology skills which students can apply in their post-secondary experiences?* Chapter 3 describes this Capstone project, a unit plan that was developed to address the research question. This chapter addresses the context behind my research, the goals of the project, the description of the project itself, the rationale for it, the setting and audience, the timeline, and how I assessed the success of the project. Chapter 3 ends with providing a summary of this chapter, as well as a brief overview of Chapter 4, which includes a reflection on the project.

Context

This project was created to steadily start implementing the use of technology into the classroom, in an age where more and more of the class is already online. Students already have access to this technology outside of the classroom due to their phones, and all the different aspects of having a phone. Features on their phones that are helpful in educational learning would be the variety of different educational learning apps they have

access to. These apps can include all the Google apps, Canvas, apps centered around helping with specific content areas, and more. Due to COVID-19, it seems as though teachers have become more aware of the positive influence technology can have on their students, and how much easier teaching can be when using it effectively. Because of this, teachers are using technology in their classrooms to deliver lessons, homework, and assessments to their students. This shift of material presented to students can be impactful because of how accustomed to digital life students are, and by presenting information to students in a way they understand. This project was put into place to hopefully help teachers plan a unit that uses different innovation techniques and allows students to advance or start on their technical skills. The workforce and post-secondary experiences are changing during this time, and by teaching our students these skills now we are setting them up for success, as presenting these skills on a resume has the potential to be a bonus.

Goals

The goals of this project were crafted to help answer the research question: *How can high school teachers design a unit plan, centered around a graphic novel that effectively integrates the teaching of technology skills which students can apply in their post-secondary experiences?* There are a variety of goals for this project, some for myself to accomplish while constructing this project, for students that would be involved with this project, and for teachers who might be implementing this unit plan. The goals of the project for students are:

1. Identify with students their confidence level in their technical skills before and after completing the unit.

2. Have conversations with students about the importance of possessing technical skills for their future careers.

The goals for the teacher are:

3. Successfully implement different modes of technology in their classrooms.

My goals for myself are:

4. Effectively use backward design for crafting the unit plan.
5. Complete the planning of this unit, and walk away feeling successful.

By the end of the unit plan, students can walk away from the class and each lesson feeling accomplished in advancing their technical skills. Students will be able to eventually take those skills and apply them beyond the classroom. Teachers will leave the classroom knowing they have mastered teaching valuable technical skills to their students. Because of this, teachers can feel more confident teaching this unit for multiple classes and making reasonable adjustments as time goes on.

Project Description

While completing the literature review for Chapter 2, it was clear that adapting the implementation of technology in the classroom as a teaching tool can be favorable for students since they are so used to having their phones in their hands, along with having access to other forms of technology (including iPads and Chromebooks). By doing this, it allows teachers to meet students where they are in terms of willingness to learn and participate in the classroom because we are presenting material to students in a way they are more open to engaging with. With this, my project is based on creating a unit plan that focuses on the implementation of technology in the classroom, while introducing or strengthening students' technical skills.

This unit plan is made up of 20 days' worth of lessons. The learning outcomes for students during this unit are:

1. Read the graphic novel *Be More Chill* and participate in daily discussions and activities.
2. Convey their ideas through organized writing (clear and concise sentences, proper grammar and punctuation)
3. Demonstrate comprehension of the text through different assessments and group projects.
4. Identify different modes of technology, and utilize them during their projects in class.

Below I will describe what every 5 days in the lesson will have students completing, as well as the final for this unit. The graphic novel that students will be reading during the unit is *Be More Chill* by Ned Vizzini, adapted by David Levithan. It is a story that follows a high school student named Jeremy. He is at the bottom of his school's food chain and makes his way through every day being bullied. One day he hears about SQUIP, a quantum supercomputer in the form of a pill. When Jeremy decides to take the pill it takes him from the school's loser to one of the most popular guys at his school. It helps him navigate through social situations and helps his popularity rise. Jeremy decides to use this to create meaningless relationships with the girls at this school, which later comes back to hurt him as the SQUIP betrays him when he hesitates to engage in sexual activity with a girl.

Be More Chill was chosen as the graphic novel for this unit because it opens the door to spark conversations about technology, brings up awareness about the hardships of

being too invested in technology, as well as high school relationships which are always relevant to talk about with students. I think that this book will be accepted by students because it follows a high schooler, and students might be more willing to read it, as well as find and make connections to the text. When reading this novel, in class we will discuss and cover topics surrounding navigating social media, cyber safety, and security, copyright and citing sources, digital citizenship, and leaving a digital footprint. While these are the primary focuses of the unit, students will additionally work on their online collaboration skills, as well as their typing and keyboard skills throughout the unit.

On the first few days of the unit, students were given the text in and the unit at a glance. This allowed students to see what is expected of them throughout the unit, the activities we are working on, and the final they are completing. This includes days 1-5 in the unit. On each of these days, the student's objective is to read the novel *Be More Chill* and participate in daily discussions and activities. This is a manageable objective for students as these first 5 days, we are going to be reading the novel, completing smaller assignments in their journals, as well as a series of small group activities that address the mini-lesson topics for the week. Their journals are a continuous Google Doc that they are updating for each journal entry. By having students complete this work on a Google Doc, daily, we are working towards strengthening their keyboard skills, as well as their ability to write electronically. Journal prompts that students are answering would include:

1. Which of the struggles that Jeremy faces on a day-to-day basis could you relate to the most? Why? (J.1)
2. What about the book so far have you found most interesting? Why? (J.2)

3. Does technology create more problems or solutions for us when dealing with stress, and stressful situations? (J.3)
4. Explain the discoveries Jeremy makes about himself once he defeats the SQUIP. (J.4)
5. What would you use SQUIP for? Do you think you would face the same problems Jeremy did? (J.5)

We read this book together in class and had it finished by the end of day 5. When planning this unit, I wanted to have the book read before we move on so that in the following weeks for the unit, the lessons are driven by what was brought up with the book, but also topics that surrounded the book. During these 5 days, before we start our reading, we will be covering the topics of digital citizenship, and what it means to leave a digital footprint. These topics will be discussed before each day and will be taught more as a mini-lesson. After we've read our assigned pages for the day, students will go answer the journal question. Then we'll move on to the small group activity for the day.

Days 6-10 will focus on the discussion topic of citing sources and learning about copyright. Again, these topics will be taught as mini-lessons at the beginning of class. These are the concepts we are covering this week because students will then be writing and turning in a position paper, where they are expected to cite correctly 3 different sources, alongside the unit text, *Be More Chill*. During this week, students will be working on writing a position paper, on whether or not technology is advancing too fast, especially with the new developments in technology, like AI. Students will be asked to write a 3-5 page paper, discussing their stance on technology using the text and 3 other

sources to support their thesis. Students are expected to have their sources cited correctly, in either MLA or APA format, whichever they chose to write their paper in.

On days 11-15, the subject matter that students will be learning consists of online collaboration skills, and how to have effective communication with their peers online. They will be working towards creating their adaptation (skit, or comic strip) of a scene from the book with their groups. Their skits can be made on iMovie, TikTok, or any other online video app that can be easily shared with me for grading purposes, as well as shown to the class for their peers to watch. We will be covering collaboration skills online because as students start to enter their final years of high school, they should be able to effectively communicate and collaborate with their employers and peers online for whatever task awaits them. This is an important skill to have as technology continues to drive our workforce and advance our current society. Online collaboration can be a valuable tool for students to learn, and through this project, they will address decisions like who will edit, film, create a script, etc. Students will be expected to turn in a self-reflection in response to their contribution to the project after their group has completed the assignment.

On days 16-20 (the final week of the unit plan), students have been tasked with creating an advertisement for SQUIP using information from the text. Students can persuade someone to buy and use SQUIP, to not buy and use SQUIP, to try and sell an alternative product that acts better than SQUIP, etc. Their advertisement can be a commercial, online flier or poster, or a sales pitch using Google Slides that they will present to the rest of the class. For this project, students have the option to work in groups, or individually. If they chose to work in groups, they will be required to

self-reflect on their contribution to the group work. This assignment combines all the mini-lesson topics we've discussed thus far in the unit. Students will have most of the week to work on this project, and should have it completed by the Friday of this week at the earliest, but can be turned in the following Monday at the latest.

Rationale

The rationale behind this project stems from the text by Wiggins and McTighe (2011) and their approach to Understanding by Design (UbD). Their approach is to build a curriculum with backward design, and because of this students are coming to an understanding of important ideas and can transfer their learning to new and real situations (Wiggins and McTighe 2011, p. 3). Backward design will be immensely effective for this unit plan because it will allow me to focus on my goals throughout the planning process, as well as push me to develop the curriculum more intentionally so that my students receive a purposeful education. Using the backward design guide to plan my unit helped me put more detail and thought into the goals and desired results of the unit, which was a part of stage 1 of the planning process from the Wiggins and McTighe text. Questions from stage 1 that I kept referring back to: "What long-term transfer goals are targeted?" and also "What knowledge and skills will students acquire?" (Wiggins and McTighe 2011, p. 8) This allowed me to acknowledge the goals that I have for students to meet by the end of the unit, coupled with keeping these goals in the forefront of my planning by making sure I was thinking about them during each step of the design process. The big ideas/ essential questions for this unit are:

1. How can we use different media and technologies to express our ideas and perspectives, and how can we use them responsibly and effectively?

2. How can we apply what we learn in this unit to our future academic, personal, and professional lives, and how can we continue to learn and grow as responsible and engaged citizens?
3. How does *Be More Chill* explore the themes of technology, social status, peer pressure, and individuality, and what can we learn from the characters and their experiences?
4. How can we develop our writing skills and presentation skills to communicate our ideas clearly and persuasively, and how can we use feedback and revision to improve our work?

Graphic novels can promote more buy-in from students because they include text and images, and are something that students are more familiar with because of their frequent use of social media. Because of this, it will be helpful for teachers to adopt this sort of instruction and put themselves in our students' shoes to provide them with the best education possible. Taking things from their everyday life to help improve their futures, because these are concepts and ideas they are familiar with, and thus will be beneficial to have mastered for their life after education. By using backward design, and the research from Wiggins and McTighe (2011), hopefully, students will be able to enter the classroom without feeling like they are only learning material to recall later, on a quiz or test. I want students to feel like their understanding of a concept is ever-growing, and that it depends on their inquiry to keep expanding, rather than stopping once they have felt they've mastered a concept in hopes of performing well on a quiz or test.

Setting and Audience

The setting for this project was an urban classroom, where there is a diverse amount of students, as well as students with different needs, including multiple 504s and IEPs for students. This project was used in a 10th-grade ELA classroom, in Bloomington, Minnesota. This high school has about 1,600 students from 9th-12th grade, and about 50 teachers, with the student-to-teacher ratio being 30/1. The student population at this high school consists of 34.4% Hispanic, 28.9% White, 21.6% African American, 8.3% two or more races, and 6.2% Asian. A little over 50% of the school population is on free or reduced lunch (Minnesota Department of Education, 2023). There were just about 35 students in the classroom and had 2 teachers in the room. The audience for this project was teachers who are looking to implement a unit plan that teaches their high school students more or new technical skills that will be valuable and useful for them to have in the future. These skills will amplify their resume, and allow them to competitively compete with the ever-changing workforce in the 21st century. This curriculum is intended again for a high school setting but could be modified with a variety of graphic novels, as well as the age level of students.

Timeline

The purpose of this project was to create a unit plan that would be ready to use in the classroom. It was crafted over 8 months, starting in January of 2023, and completed in late August of 2023. About a month and a half of this time went into extensive research to find the best appropriate resources and information to use for this project that would add to the knowledge I already had. The rest of the time went into planning out lessons, finding different materials to use, finding the graphic novel the unit is centered

around, creating and perfecting the Google slides, and other teacher resources for this unit. For designing this unit plan, I used backward design and the Wiggins and McTighe text (2011) to guide my design and planning process. Due to this timeline, this unit can be put into place during the 2023-2024 academic school year.

Assessment

To assess the success of the project, students will be given a Google Form to fill out before the start of implementing the unit plan. To gauge where students were before the start of this unit (with their technical skills), questions on the Google Form are listed below:

1. Rank your technical skills below on a scale of 1-10. Skills would include, stronger typing ability, an understanding of digital citizenship, an understanding of what copy-righting is, how to cite sources (MLA and APA format), effective ways to navigate different modes of technology (phones, computers, tablets), an understanding of cyber safety, and security.
2. What skills would you say are your strongest?
3. What skills would you say are your weakest and wish you were stronger in?
4. What skills do you think you have grown the most in? Whether it be learning, understanding, or implementing.

Asking these questions beforehand allowed me to get an idea of where students were sitting with their comfort in their technical skills, as well as where they thought they had room for improvement. After the completion of this unit plan, students were again asked to fill out a Google Form, with the same questions. Keeping the same questions allows

me to see and get full transparency from students about how they believe their skills have improved or not from the teaching of this unit.

Summary

The unit plan crafted in this chapter was done to help address my research question: *How can high school teachers design a unit plan, centered around a graphic novel that effectively integrates the teaching of technology skills which students can apply in their post-secondary experiences?* The goal of this project was ultimately to create a unit plan that teachers could use in their classrooms to help with the learning curve of utilizing technology in the classroom. The unit plan focused on the execution of the best functional way to teach students technology skills that they can take advantage of in their futures.

Chapter 4 reflects the Capstone project and process and how it went in answering the research question: *How can high school teachers design a unit plan, centered around a graphic novel that effectively integrates the teaching of technology skills which students can apply in their post-secondary experiences?* This chapter will include what I learned about myself as a learner, writer, researcher, and educator. It will also cover the limitations and successes of the project. Finally, it will address the implications the project will have on others in the future.

CHAPTER FOUR

Reflection

Introduction

The question this capstone project asks is: *How can high school teachers design a unit plan centered around a graphic novel that effectively integrates the teaching of technology skills that students can apply in their post-secondary experiences?* This question was designed to address how high school teachers, specifically, can lead their students to develop important technology skills for the 21st century. The importance of the graphic novel in the unit stems from wanting more student buy-in, and participation in the class by using a mode of reading that is more accessible, and enjoyable for all students. The project aims to have all students walking away from the unit feeling as though they have gained more knowledge, and skills than they started with. In creating a curriculum that addresses this question, I was able to answer my research question, while also providing teachers with the foundation to use this in the classroom.

Through the rest of this chapter, you will find my insights on the major learning concepts that happened during the process of this project, a revisit of the literature review completed in Chapter 2, and the implications and limitations I faced during my research and project. Then, sharing how this will be communicated with others will be addressed, as well as the application of this in a classroom setting. An overall summary of the research and project completed follows.

Major Learning Concepts

The first step in developing this curriculum was to familiarize myself with UbD, *Understanding by Design* from Wiggins and McTighe (2011), to appropriately use

backward design to craft this curriculum. By using backward design, it allows for the end goal to be at the forefront of planning, thus creating more engaging and targeted lesson plans for students. It also allows for student evaluations under the umbrella of their learning and goals, being able to modify instruction as needed, or in some cases challenge students more inside the classroom. Lesson plans are also more detailed, and commonly aligned with student interests and needs.

Other learning came from the discovery of reading concepts to put into place during the first week of the unit when the class is reading the book. These were concepts I needed to better familiarize myself with before implementing them into the curriculum. One reading strategy that was used for this project was the implementation of providing background information and using prior knowledge to enhance student learning. On the first day of the unit, students were introduced to the authors of the text, David Levithan (graphic novel adaptation), and Ned Vizzini (author of the text). By providing this background information on the authors, it allows students to deepen their understanding and appreciation of their work. It allows them to explore the author's background, themes, and writing style, enhancing their overall reading experience. Students have a chance to understand why the author did certain things and get into the brain of the author by knowing basic information about them. All of which can amplify the true understanding students will get from reading.

Incorporating students' prior knowledge within this unit can increase their comprehension of the text by hooking them based on knowledge and information they already possess. It allows them to build connections to the text and author. It builds a strong foundation for their learning and reading journey of the text.

Literature Review

The first part of this process was the extensive literature review. The review was split into five different sections, all important research to better understand the question I posed. The first section was catered around student attention spans, and how that affects classroom learning and management. Secondly, the literature review investigated student burnout, due to the effect of burnout on students in terms of their grades and mental health. Students can suffer, becoming overwhelmed, exhausted, and disengaged from school work stress and pressure (Molero et al., 2021). Thirdly, the effective use of technology was further researched for this question. Found in this section were some of the best ways to use technology in the classroom, and how to do so in a positive way to impact student learning. The fourth section of the literature review was centered around teaching technology as a transferable skill to students. This was an important topic to cover due to the research question calling out teachers being able to use technology to teach students skills for their post-secondary experiences. In this section, I found that by teaching students these skills, it can help them be better prepared for college and the workforce (Egresitz, 2020). It also teaches students how to become more independent, and self-sufficient, which can benefit them in both their personal and professional lives. Lastly, research on teaching a graphic novel in the classroom was addressed. In this section, I found that teaching graphic novels can be a useful tool because it offers students a more engaging and accessible way to read, especially for students who struggle with more traditional texts (Issa, 2018). Graphic novels also can help students develop visual literacy skills, which is increasingly popular in today's age.

I found the literature review to be extremely helpful in the drafting process of my project. I frequently went back to review what types of teaching styles work best in the classroom, in drafting assignments, and anticipating how students would react to a certain assignment in addition to its requirements.

Implications & Limitations

The work done in this project showcases the opportunities for students and learning new skills that will be impactful on their futures. The created curriculum spans a twenty-day unit. Each week in the unit has a mini-lesson topic that will be taught during the week, and leading up to either their formative or summative assignment for the week. For students to have these beneficial technology skills in their back pockets as they enter the workforce, and other post-secondary experiences, it offers them unique opportunities to showcase what they have learned. By doing this, we as educators are encouraging them to use their higher-level critical thinking skills, along with the comfortability of using those skills, and what is required of them.

Additionally, with designing this curriculum I hope that it influences teachers to use what students know and are comfortable with, to design learning experiences that are both packed with knowledge and enjoyment for both students and teachers. There is always room for improvement when designing and creating curriculum, furthermore lesson plans, and smaller activities for students to do in the class. I wish this curriculum to be a tool for teachers in the present and future to use, and recognize as an ally in bettering student education with the newfound use and understanding of technology inside the classroom.

For students themselves, offering them a curriculum that teaches them, or hones in on skills they have can be crucial to their understanding of putting to use what they have learned, in either low-stake or high-stake situations. Implementing technology now into their earlier educational careers can help improve their study habits, as well making the class fun and engaging for them by using what they already know to influence how their learning is happening now.

Throughout this process, one hurdle that I needed to jump many times was the constraint of time. This comes when designing the curriculum and allotting time for each day, assessment, mini-lessons, and smaller assignments for pairs or individuals. Teachers now in many districts are short on time for planning and executing, which played a factor when crafting this curriculum. Taking into consideration the amount of time a teacher has during their prep, lunch, and any other open space, there wasn't much to work with. For this curriculum, I intended to be self-explanatory and straightforward so that more effort could go into the actual teaching and teaching, rather than slideshows, and finding materials. With this though, I wanted the curriculum to be interchangeable, meaning teachers could swap out the text for another, and could easily find new replacement assignments, and small group activities for their students. By using backward design for this curriculum, teachers can easily do those above-mentioned things, all the while keeping the main foundation of the curriculum. Ideally, this resource can and will be available in the future for all teachers.

Looking Forward

When thinking about the future of this curriculum and the work that went into completing it, I realize that learning is ongoing and can happen anywhere. This belief is

one I want to implement into my classroom someday and share with my students, and other teachers in the profession. With that being said, everything over time evolves, and this project should too. Being updated with more recent literature to back up the sections of research I covered, along with the different strategies hidden throughout the curriculum. While the focus of this project was to include technology into everyday teaching to promote the learning of technical skills for students, this information can change over time. It's essential to notice that while it is the hope this is accepted by students and teachers, that won't always be the case.

While this project was created with teachers in mind, it's dedicated to students and how we can enhance their post-secondary experiences by teaching them valuable technology skills that will last a lifetime. Because this was created with students in mind, it's incredibly important I receive their input and feedback on both their understanding of the learning concepts, as well as how they felt the unit went overall. For this, by the end of the unit, students will receive a link to a Google Form that allows them space to reflect on their learning, and the unit as a whole. They will also be asked to reflect on their new or strengthened technical skills. Without the students, this project would not be possible, therefore their input and feedback are critical to the success of this project in the future.

Summary

In this chapter, I started by addressing major learning concepts which included how to use UbD (*Understanding by Design*) effectively, while also planning the curriculum using backward design. Then, it was the implementation of different reading strategies that would influence the way students read and respond to the text.

Then, went into addressing the literature that served as a strong foundation for the project. I explored both the limitations and implications of the work that has been completed thus far. Lastly, I moved on to reflections and the following steps to enhance this project. This capstone project was created from a desire to use a form of learning that students are familiar with to promote learning skills that will be beneficial for their futures. Technology was the driving point for this project, and as it continues to grow and evolve, so will our students and educational experiences. By empowering educators to use technology more frequently and effectively in their curriculum, it puts forth better opportunities for students to excel later in the workforce, now having a skill set that is in high demand.

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