Masters of Education in Teaching and Learning   Masters Theses and Projects

Spring 3-6-2022

We are Digital Citizens: Implementing Digital Literacy Workshops in an 11th-Grade English Classroom

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Abstract

At the time of the study, the researcher was a graduate student serving in a yearlong clinical teacher placement. The researcher implemented an intervention aimed at promoting a higher level of literacy and authentic online communication skills among students. The purpose of this study was to examine how a digital literacy workshop influenced students' professional online communication. For this study, the researcher collected data using pre- and post-assessments, head notes, and individual interviews. Using the constant comparative method with the addition of descriptive statistics, the author found common themes amongst the data collected that included the following: struggles with literacy/communication, student attitude towards technology/digital literacy, implementing digital workshops, and professionalism. Findings confirmed that digital literacy workshops positively impacted students' writing and communication skills as well as their professional mindset. The researcher displayed the findings through poetic transcriptions and a bar graph.

We are Digital Citizens:

Implementing Digital Literacy Workshops in an 11th-Grade English Classroom

"I have no idea how to even start them." Such was the response of Caleb (all names are pseudonyms), one of the students in the third period of my high school English classroom at the beginning of the digital literacy workshops when I instructed students to write an email. While the current student population has grown up immersed in technology and social media unlike any generation prior to themselves, there is still an evident need to teach students how to navigate themselves through the digital world. As students step in and out of the classroom and walk towards adulthood, there is an increasing urgency for students to develop digital literacy and digital citizenship.

Purpose

During my clinical teaching, I observed various strengths and weaknesses the students possess. Within the spectrum of different backgrounds and academic achievement levels, their digital communication skills caught my attention. I observed emails and messages sent from students to my cooperating teacher, many of which contained errors in formatting and pragmatics. As an English teacher, I found the process of teaching the foundational skills for online communication to be an essential step in leading students towards a higher level of literacy and authentic online communication skills. The purpose of this study was to examine how a digital literacy workshop influenced students' professional online communication. My research questions were as follows:

Research Question: What happens when teachers in an English III classroom at Edwards High School implement a digital literacy workshop?

Sub Question: In what ways does it influence students' professional online communication?

When I conducted this study, I was a graduate student fulfilling a year-long clinical teaching placement in a self-contained eleventh-grade classroom at Edwards High. Edwards High is a Title 1 school located in West Texas. The city in West Texas had a population of about 124,000 people. The school district, of which Edwards High School was a part of, consisted of about 4,800 students. Edwards High included grades ninth through twelfth grade. There were about 1,300 students that attended this school. At Edwards High about 71% of the students were White, about 17% of students were Hispanic, about 5% of the students were African American, about 4% of the students were Asian, and about 3% of the students were two or more races. About 14% of the school's families were considered economically disadvantaged, and about 1% of the students were enrolled in bilingual and English language learning programs.

Literature Review

In the recent decade, students have become constantly surrounded by technology, information, and social media. As social platforms continue to expand, students are continuously immersed in the information they consume and share (Galvin & Greenhow, 2020). As this flood of information continues to grow, there is a developing need for the next generation to know how to navigate through it. This crucial skill is called digital literacy. Reedy and Parker (2018) define digital literacies as "part of a spectrum of related knowledge and skills" (p. 18). Digital literacy is a part of information literacy, which a researcher must learn how to navigate through.

Digital literacy and digital citizenship impact students inside and outside of the school. Students with digital citizenship can implement the strengths of new technologies to fortify their communities and fulfill responsibilities in their community (Krutka & Carpenter, 2017, p. 55). Additionally, while online platforms once provided an underexplored area of digital literacy in

the classroom, educators have started exploring ways to connect Facebook and Twitter into their teaching (Allen & Richardson, 2012).

Digital Literacy in Education

Allen and Richardson (2012) listed several ways educators have built these platforms into their classrooms. Examples include teachers using Facebook to interact with students through chats and group pages, podcasting to record and share ideas, and video conferencing (Allen & Richardson, 2012, p. 8). However, there were insufficient assessments and data on the impact that these projects hold on the students' online communication skills.

There is a variety of 21st-century literacy-based technological tools. In Krutka and Carpenter's (2017) study, the scholars provided various tools to nurture digital citizenship such as the C.R.A.P. test, in which their participants analyzed the currency, reliability, authority, and purpose of sources presented to them. Khadzir and Sumarmi (2020) have also introduced an approach called the Model United Nations learning method–or MUN learning method, a new learning method that aligns with the 21st-century curriculum. The MUN learning method was designed to nurtures students' communication, critical thinking, collaboration, creativity, and innovative skills in the field of social studies (Khadzir & Sumarmi, 2020, p. 497). While the MUN method is still in the developmental process, this new learning method demonstrated the possibilities of implementing digital citizenship as it trained and measured the level of students' critical thinking and communication skills.

Fang et al. (2021) implemented online communication services including Mirapolis Virtual Room, Moodle, and Microsoft Teams into an educational interaction program. They studied the usage of online communication tools to manage and develop teamwork in the STEM education environment. Fang et al. (2021) and their study can be easily adapted to the necessities

of various fields and the upcoming generation of students who are immersed in the digital community. However, they also mention the need for a systematic and organized approach to expanding teachers' rights and capabilities in the field of education, specifically in the process of integrating digital technologies into the daily instruction and practice within the classroom.

The Need for This Study

Despite the success of implementation in higher education, there was a surprising deficiency of research regarding digital literacy and citizenship in the high school setting. Mudra (2020) addressed the lack of research regarding the use of digital tools in the English classroom and the impact it has on students' communication skills. Hunter et al. (2018) also mentioned the need for further application of adolescent online literacies in classroom environments. There is a need for research in which teachers provide students with access to 21st-century literacy-based technological tools to assess their impact on students' communication skills.

Considering the growth of smartphones and countless other digital communication tools, students must acquire "the necessary strategies to evaluate online information and communication to become effective and informed citizens" (Korona, 2020, p. 54). The research and results found by this study gives new insight into the field of educational research by providing application-based data on the implementation of digital literacy workshops in a high school setting and how it affects the digital citizenship and online communication of students. In addition to adding to the field of educational research, this study benefited my class by allowing the students to grow in their literary and communication skills as well as provide an intervention to their challenges with writing.

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Methods

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During the time of my research study, I was serving as a yearlong graduate student

clinical teacher in the second semester of the academic school year. Because of the uniqueness of the situation, I was able to form connections and relations between the students in the class before the intervention took place. This allowed me to view the participants of the study in a unique way, as I was both their teacher and researcher. The sections below explain the mixed methods data collection and analysis used in this study.

Participant Selection

The participants of this study were in the third period, English III classroom at Edwards High School in Mito, Ibaraki. Assent forms from the students and permission from the parents were required for participation. Participation was not tied to grades in any way. According to the school records at Edwards High, the demographics of this class was composed of 27 students: 17 boys and 10 girls. Sixteen students were White, two were African American, two were Asian, and seven students were a mix of two or more ethnicities. Out of the 27 students, 12 students consented to participate: 7 boys and 5 girls. Seven students were White, two were African American, one was Asian, and two students were a mix of two or more ethnicities.

Data Collection

While the pre-assessment and post-assessment and digital literacy workshops were administered to every student in the third-period class, I only collected data from the students who assented and received parental permission. Digital literacy workshops took place at the beginning of each class period for fifteen minutes and was implemented during the first two weeks of the action research. During these workshops, participants were given a simulated task that was aligned with the normal practices of a high school English language arts and reading classroom (see Appendix A). Workshop topics included but were not limited to how to communicate effectively, how to format professional communication, etc. Examples of student

work and tasks included but were not limited to sending an email to their teacher about a late assignment or requesting assistance over their classwork. I collected the emails and assessed their literacy and communication skills with a checklist.

Student work from the digital literacy workshops were collected as student-generated artifacts. Examples of these artifacts included but were not limited to exit tickets, emails, and worksheets. I also collected the emails that students sent to my cooperating teacher during this period, which served as real-life measurements of student progress and development. These artifacts helped select the three students for the interviews I conducted as I collected students' perceptions towards communicating online.

A select number of participants were chosen intentionally for the interviews. Patton (1990) called this process purposive sampling, which allows the researcher to select participants who will best shed light on the phenomenon under scrutiny. During my time in this classroom, I observed some students who were actively engaged in their workshops, some students who were confused or frustrated with the workshops, and some students who reacted in between these two extremes. When selecting three participants for the three different one-one-one interviews, I purposefully selected one participant from each of the three levels of reaction based on the student artifacts and their reactions to the workshops as mentioned above. I asked the selected participants several questions regarding their perceptions of professional online communication and the different areas of thoughts, concerns, and questions they held based on their personal experiences. The interviews were fifteen minutes long and were recorded and transcribed. The interviews were semi-structured with pre-planned but open-ended questions (Hendricks, 2017). See Appendix B for the interview protocols. Additional follow-up questions were asked depending on the responses of the participants.

Finally, I created headnotes during the two weeks of the digital literacy workshop (Hendricks, 2017). Headnotes were recordings of any growth opportunities or phenomena that I observed, as well as reflections on my instruction and what I may change in the next lesson. During the digital literacy workshops, I jotted down short words or phrases to remember the specific observations, phenomena, and student responses. After the workshops, I took fifteen minutes to write headnotes from my observation and the notes I had written down.

Data Analysis

I analyzed the pre-assessment and post-assessment using a checklist (see Appendix C) to collect descriptive statistics. The checklist recorded completion of the following components: the student had no errors in spelling and grammar, the student wrote in appropriate formatting, the student addressed the main purpose/problem clearly, and the student wrote respectfully and professionally. The checklist from both assessments were then incorporated into a chart to visualize any impact that was recorded. I used the constant comparison method as I analyzed the collected artifacts. Using this method allowed me to continuously examine the data I collected as I processed the new information that emerged (Hubbard & Power, 2003). The transcriptions and notes from the student artifacts, interviews, and my headnotes allowed me to discern the potential changes that were observed regarding students' digital literacy and their perceptions of it.

I conducted a qualitative analysis of data with initial coding followed by creating hierarchies of categories and supporting codes (Hubbard & Power, 2003). The qualitative data was analyzed by manually coding the first 20% of the data. This data was used to create a list of 15 to 20 level 1 codes, which was used to code the remaining 80% of the collected data (Tracy, 2013). After I created the level 1 codes, I looked for overarching themes and findings and

developed 3-5 level 2 codes that represented the major themes of this study. During the entire process, I wrote analytic memos for each of the level 2 codes. I used these memos as I gathered all the supporting data for each level 2 code. I then indexed the data by gathering all the supporting data for the level 2 codes on pieces of chart paper. Finally, I created a codebook (see Appendix D), which includes a list of completed codes, definitions, and examples from data (Tracy, 2013).

The interview transcriptions and my headnotes were analyzed using coding schemes. To present my findings, I created poetic transcriptions for each group of student perceptions (Glesne, 1997). For each poetic transcription, I used direct quotes from the interviews to create poetry that personifies student perceptions towards digital literacy.
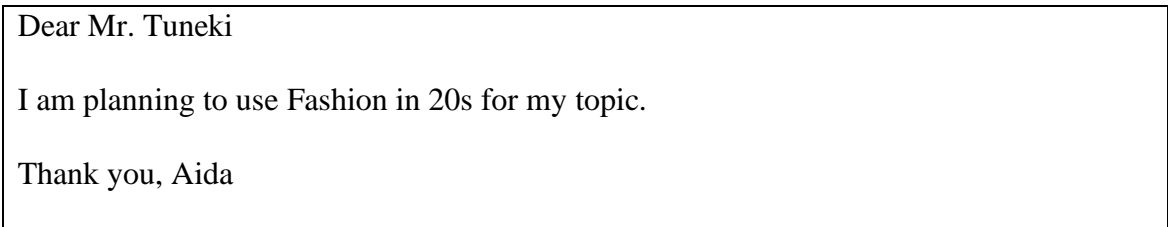
Findings

After reviewing my pre- and post-assessments, head notes, and interviews, I categorized my data into four main themes. The themes were the following: struggles with literacy and communication, student attitude toward technology and digital literacy, implementing digital literacy workshops; and professionalism. To visually present my findings, I included student artifacts of emails and writing along with the creation of poetic transcriptions. Poetic transcriptions were poems created from the words of participants to convey key findings from qualitative data (Glesne, 1997). For each poetic transcription, I used student quotes from the independent interviews to create poetry that personified students' perceptions about digital literacy and online communication. One poetic transcription was created for each interview, resulting in a total of three poetic transcriptions.

Struggles with Literacy/Communication

Upon the pre-assessment of the research and the early workshops that took place, I identified the struggles that students held regarding literacy and communication in the classroom. The first challenge that I faced was with writing, which was divided into two major categories: struggles with formatting, syntax, and structure; and struggles with grade-level spelling and grammar.

Figure 1

Pre-assessment Email from Aida

Dear Mr. Tuneki

I am planning to use Fashion in 20s for my topic.

Thank you, Aida

The email above was an email sent from Aida, one of my students in my third period classroom during the pre-assessment. I had instructed students to send me an email informing me of the topic that they chose for their research, which was the first time a few of them had ever sent an email to a teacher. As it can be noticed in Figure 1, there was an error in spelling such as my name, and a capitalized "F" for fashion. The email was also missing a subject, which provides a recipient with a brief overview of what the email is about. While Aida's email was not perfect, it did complete the essential purpose of communicating the topic for her research. More than half of the students simply typed down their topic choice without other greetings, explanation, or context. I had intentionally instructed them to send an email in a way that they thought was correct, and this pre-assessment helped me identify what I needed to instruct and reinforce through my workshops. Writing and formatting is something that can be improved with practice, and I was able to see such improvements which will be mentioned again later.

There were several unexpected struggles among the students that also I noticed in the initial steps of my research. The first challenge was the lack of attentiveness among students and their resulting work. On day two of my digital literacy workshops, I wrote down the following head notes:

> There is a direct correlation between the attentiveness of the students and the resulting product answering what I prompted… many students were not reading instructions clearly, which results in miscommunication and the end product not being what is being asked. For example, I asked them (in today's task) to write about the research topic that I showed them instead of their individual ones. This was done so that students can see how to create a topic sentence for a common topic. However, some students still wrote about their own topics which resulted in slight confusion.

In this way, attention was a factor that I observed to be affecting the quality of their work and writing. As it is essential to have the students' attention and engagement when teaching them a new skill or knowledge, I found it imperative to create lesson plans and activities that would not only correct disengagement but also their interest in the activities that I held.

Another challenge was students' ability to practice critical thinking and complete the task that was in front of them. This is connected to student attentiveness, but it goes deeper into the student's ability to learn how to wrestle with a new concept or skill and learn how to solve it on their own. While my students were able to copy my modeling on a daily basis, I wanted to take them into a deeper level of thinking and learning. Such factors like attention and problem solving cannot be simply taught in a single lesson or correction but was something that I reflected and took note on for analysis as well as for further improvements in my practice. The perceptions that they held towards technology and literacy is further examined in the following level 2 code.

Student Attitude towards Technology/Digital literacy

<u>What are We Doing?</u>

I have no idea
       how to even start them.

I didn't want
       my grade to go down.

I don't really know.

I'm not here
       I can't just ask the teacher,

Like…
       What are we doing?

This poetic transcription was a compilation of quotes from Caleb in his independent interview. While there was improvement from his pre-assessment to his post-assessment, he was one of the students who visually showed frustration and confusion during the implementation of digital literacy workshops. There was a spectrum of student perspectives regarding their use of technology and online communication. As this was a qualitative study, it was essential to collect and analyze the student's perception of writing and communication–especially their thought process and feedback towards the digital literacy workshops.

I collected and organized student attitudes into the following three categories: technology in daily life, technology in the classroom, and self-perception of their own reading and writing skills prior to and after the workshops. Additionally, I collected data on student backgrounds with technology and online platforms, which helped analyze the proficiency and familiarity that students had with the tools that the researcher used in the workshops.

Student attitude towards technology and digital literacy was something that deeply fascinated me. In the individual interviews, all three students shared that they were highly or

relatively confident in their ability to use technology in the classroom. I also learned important

information on their personal upbringing with technology which slightly differed from mine as

well as those who have conducted research before. However, some of the lower-achieving

students who mentioned their confidence with using technology were the same students who

shared their confusion or questions over completing tasks on a computer. As mentioned in the

poetic transcription, Caleb had exclaimed that he had "no idea how to even start them" during

the pre-assessment when students were told to write an email to a teacher. This contradiction

fascinated me, which I later recognized as a gap between their familiarity with technological and

online skills such as texting and Googling to their familiarity with new technological and digital

literacy skills that require a higher level of skills and thinking.

      Collecting information on student perspectives and attitudes enhanced my study as it

helped analyze the student's perspective towards their initial view of digital literacy and writing

and communicating online, and the change in perspective after the implementation of digital

literacy workshops.

Implementing Digital Literacy Workshops

<u>Now I Know</u>

It was last semester.

I put,
      Dear Mrs. Kelley
and then I just told her,
      I'm sick. I can't make it to class.

I didn't put sincerely
I just put my name
I didn't put a subject

But now…

I know what to put in the subject

I know to make it short
 but not include every single information.

This poetic transcription was a compilation of quotes from Faith in her independent interview. Faith was one of the several moderate-achieving students who demonstrated a large amount of growth in his performance and understanding with writing. Furthermore, she has shown much improvement from the beginning of the school year in terms of engagement and intentionality, and was one of the participants who showed growth through the digital literacy workshops.

 I addressed the specific areas of growth and change that I observed and collected based on my pre-assessment and observations. As I hoped to conduct unbiased research that examined the potential areas of growth, the lack of it, or harm that my digital literacy workshops caused, I collected and analyzed not only the areas of improvement but areas where I saw the lack of it as well. While I saw much improvement in the structure and professionality in writing for a large portion of students, I also came across student messages that took a step backward due to lack of attention or following through instructions. The improvements that I was able to see in their writing and authentic emails showed large growth and outweighed the challenging areas.

Figure 2

Student Checkmark Count Comparison

Figure 2 shows the number of checkmarks that each student achieved in the pre-assessment and post-assessment. I was able to see improvements in formatting in every participant, which is evident through the increase of at least one checkmark for each student. While there were small errors in grammar and clarity in certain students due to attention and small errors in following through, there was measurable growth in their writing after two weeks of implementing the digital literacy workshops.

Figure 3

Pre-assessment Email from Faith

Subject: *Blank*
Body: Dear Mr.Tsuneki, I plan on writing my research paper on the KKK. Faith Beltran

Figure 4

Post-assessment Email from Faith

Subject: questions about deadline
Body: Dear Mr. Tsuneki, I am currently working on my outline, and I am having trouble figuring out the deadline. I thought the assignment was due on Friday at 11:59, but I am not sure since the assignment says it is due tomorrow on Thursday at 11:59. I was wondering if you could clear up the confusion, by telling me the due date. Sincerely, Faith Beltran

Figures 3 and 4 above demonstrate the specific improvement that Faith made in her writing skills, from the pre-assessment to post-assessment of writing emails. This improvement encompassed many of the skills that I focused on which includes the following: improvements in formatting,

spelling, and grammar through instruction; improvements in navigating through information and synthesizing it; impact on students' ability to communicate on online platforms; practicing critical thinking and completing the task that is in front of them; and student improvement in following examples and completing tasks.

It was a joy getting the chance to explore writing and communicating on digital platforms through the digital literacy workshops. Not only did this impact student performance, but the self-perception that was noted in the previous section. As Faith's poetic transcription demonstrates, she among many students were initially missing important components of their email. The same could be said in their research papers that the students were working on after the workshops, such as a strong thesis, topic sentences, and commentary after the textual evidence that they provide in their papers. After the implementation of digital literacy workshops, Faith was able to identify what was missing in her pre-assessment and improve her writing. This can be seen in Figure 3, as her subject is short and concise, and the email clearly addresses the topic of concern and a potential solution.

Figure 5

Student Email from Caleb

Subject: Vocabulary Assignment
Body:
Mrs. Kirby
I'm still in need of the Vocabulary Words that you handed out on Tuesday, (also the passes), and when will the Vocabulary Assignment be due for me? I cannot do it today because I'm working after school, can I possible turn in the Vocabulary Assignment on Wednesday? I also need the paper to study for tomorrow's test.
Caleb Session

Figure 5 above was an email sent by Caleb during the implementation period of digital literacy workshops. This was not a pre-assessment or post-assessment, but an actual email that he sent to my cooperating teacher. I collected this as a student artifact as it showed improvement from the initial reaction that he had towards writing an email. While the formatting was not perfect, Caleb was able to clearly address the fact that he did not receive a vocabulary sheet and that he needed to study for the test. This artifact is extremely valuable for my research as it showed the impact that my workshops had on students not only in assessments and assignments, but in real-life scenarios where students needed to communicate online to resolve a problem that was in front of them.

Professionalism

<u>Finding the Fine Line</u>

If you're typing it to a friend,
    You'll all chill.

    Like, "oh, what's up?"

But communicating with an adult or teacher...

    I think it is a little bit different,

If you're typing to your teacher
    You want to change that
        And have a format with it.

If you go up to a coach,
    You try to act like

    "Oh, what's up, buddy?"

It's not going to go well.
    So you have to find a fine line.

This poetic transcription was a compilation of quotes from Matthew in his independent interview. Matthew was one of the several high-achieving students who demonstrated a large amount of

growth in his performance and understanding with writing. Furthermore, he and a number of students helped me take a step further and collect data on students' ability to demonstrate professionalism in both academic and practical settings.

Professionalism is something that was rooted in each of my previous findings but held the value to be grouped with its own category. In this section, I specifically focused on improvements in students' ability to demonstrate professionalism in both academic and practical settings. Data was primarily collected from the pre-assessments, post-assessments, and the individual interviews that took place. This allowed me to identify and analyze the improvements in the students' demonstration of professionalism as well as their mindset towards it.

On top of the improvements that I presented in the previous section, professionalism played a significant role in my analysis of data. My research question specifically mentioned professional online communication in its sub-question. As I conducted my research and collected data, analyzing the aspect of professionalism allowed me to organize the student growth and awareness that I observed through their writing and feedback.

An example of this growth is when students changed from sending emails with nothing but a single sentence in an email, to sending a clear message with proper formatting and tone throughout the message. This was also found and connected to the initial struggles that I had observed as well as the growth in their intentionality and care for formality.

Figure 6

Pre-assessment Email from Matthew

Subject: *Blank*
Body:
Why the saxophone was the most important instrument in the Jazz Age.

Figure 7

Post-assessment Email from Matthew

Subject: Assignment Due Date
Body: Hello Mr Tsuneki, I was working on the outline that was originally due this Friday at 11:59 pm. I checked the assignment and now it says that it is due Thursday at 11:59 pm. Is this a mistake or was the due date moved? Sincerely, Matthew Trent

Figures 6 and 7 above show the improvement that Matthew made in his writing skills, from the pre-assessment to post-assessment of writing emails. As the two separate artifacts demonstrate, I was able to see an improvement not only in the formatting but the voice and formality in students and their messages. This cannot happen without the students developing a professional, formal mindset when they are writing a message with the purpose and recipient in mind.

As for awareness, students shared how they now know how to better differentiate the way they send messages to their friends from what they will send to their teacher, professor, boss, etc. Matthew mentioned that several times in his individual interview, which can be seen in the poetic transcription at the beginning of this section. While the way high schoolers communicate to their peers and friends does not need to drastically change, one of my goals with the implementation of these workshops was to help students differentiate when to be casual and when to be formal. This ability to mentally switch into a professional mindset connects to the confidence that they did not possess, which also connects to their self-efficacy that was formed through the implementation of these digital literacy workshops. I observed the growth in

students' ability to differentiate scenarios and communicate accordingly, which I see as a large step forward that my students were able to make.

This factor on professionalism not only examined how "professional" high school student's writing can look, but also the mindset to be professional as well as their self-efficacy to be able to do so. This was of significant help for my analysis and findings as I identified the areas of growth in work and mindset along with the other potential areas of growth that I could further explore in my future research.

Implications for Teachers

The purpose of my research was to see the impact that digital literacy workshops have in the high school English Classroom. While my goal was to see areas of growth in students' writing and communication skills, I also saw the development of a professional mindset among many of the students. While students enter my classroom growing up in a childhood in technology and social media that is earlier than my own, I identified their need to be guided through using them properly and effectively. This did not only include the English aspect of reading and writing properly, but also the skills of finding useful and valid information and passing it on to others through formal writing and communication. Through the implementation of my workshops, students obtained and developed their knowledge and skills for identifying, outlining, revising, and problem-solving.

While I saw areas of growth and insight, I was left questioning what I may have observed more of or differently if the unit I was teaching was on creative writing, or over a long novel. This was the limitation that was most significant to my study. As I wove my digital literacy workshops into the existing curriculum, there were areas of digital literacy that I was not able to cover as much as I would have hoped. The unit for my junior English classroom was on research

and writing, which inspired me to teach how to skillfully identify sources, format writings according to the context, and communicate with the teacher over existing questions, confusions, and clarifications that needed to be resolved. On the other hand, I did not have the chance to explore other platforms of communication, which is a huge part of digital citizenship. While I tried my best to provide a comprehensive set of workshops to best instruct my students on digital literacy and citizenship, I am aware that there were some areas that I let slip through due to the restrictions of the curriculum and the time frame that I had. I have taken this as a growing experience and hope for my future research to be able to cover a wider spectrum of digital literacy and at a deeper lever through improved and extensive planning.

For teachers who hope to implement digital literacy and to nurture digital citizenship in their classrooms, I would encourage them to plan ways to strategically implement workshops into their curriculum and lesson plans. As I mentioned previously, one of the limitations that I faced was the need to accommodate my digital literacy workshops into the existing curriculum and standards that I was expected to provide instruction on. While this need appeared to be a challenge during my implementation and lesson planning, it can also point towards the potential that digital workshops hold if they are implemented throughout various content areas and grade levels. Use of technology and communicating through it is a requirement in the TEKS and standards across all content areas, and there are different areas of digital literacy that can be reinforced through the spectrum of academic skills and expectations. An ideal route of implementation would not only include thorough planning by a single teacher, but a collaborative construction of workshops among teachers across different content areas.

As I reflect on my research and the areas of success and limitations, there are a few areas that I would like to explore more. Attentiveness was one of my notable factors and a factor that

caught my attention throughout my research. Student engagement and its correlation to learning

was an undeniable factor, as I mentioned its significance in the areas of struggle during my

digital literacy workshops. Now that I have come to see its impact on student learning, I would

be interested in conducting further research on how to nurture attentiveness and implement a

variety of workshops to see what works. I would also like to implement similar workshops for

longer periods and across content areas and grade levels to observe similarities and differences

that I may come across. As I mentioned in my literature review, digital literacy is a new field and

is yet to be implemented and studied in general education. As the world continues to immerse

itself in information and technology, I believe it to be extremely beneficial to study the

implementation of digital literacy and digital citizenship to learn what works best to teach young

students who will inevitably interact with information and various communities online.

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Appendix A

Pre-Assessment and Post-Assessment Prompts

Pre-Assessment

Let's write an Email!

We are collecting the topics for your research paper. Tell Mr. Tsuneki what your topic is in the space below. Make sure your submission is in the format of how you would send an EMAIL. Pay close attention to grammar, spelling, and formatting.

Post-Assessment

Let's write an Email!

You are working on your outline that is due Friday at 11:59 p.m. You check the assignment, and it says that the assignment is due tomorrow, Thursday at 11:59. You are not sure if the date was moved or if your teacher made a mistake with the deadline settings. Email Mr. Tsuneki to resolve this confusion.

Appendix B

One-on-one Student Interview Protocol

1. Tell me about the last time you sent an email to a teacher.

    a. What steps did you follow?

    b. In your opinion, was the purpose resolved? Why do you think it did, or did not?

2. Tell me about your thoughts on how much we use technology in the classroom.

3. Tell me about your use of technology in the classroom. Are you confident over being able to effectively use it? Why do you think/not think so?

4. On a scale of one to ten, how much do you think technology enhances your communication skills? Why did you choose that number?

5. On a scale of one to ten, how much do you think technology detracts you from your communication skills? Why did you choose that number?

6. Tell me about the difference between communicating online with a friend versus communicating with an adult such as a teacher or coach.

7. In what ways does technology make communication more difficult?

8. In what ways does technology make communication easier?

9. Tell me about one lesson or fact from the literacy workshops that have changed your perception of online communication. What changed and how?

10. Tell me about one or more new skill(s) you have taken from the literacy workshops.

11. What would you like for me and other teachers to teach for you to become a better communicator in-person and online?

12. What would you like for me and other teachers to do in order to better communicate with you through online platforms (email, google classroom, etc.)?

Questions may vary and additional questions may be asked depending on the answers of the participants.

Appendix C

Email Checklist Template

Student Name:	
The student has no errors in spelling and grammar.	
The student has written with appropriate formatting.	
The student has addressed the main purpose/problem clearly.	
The student has written respectfully and professionally.	

Appendix D

Codebook

Level 2 Code	Level 1 Code	Definition	Example
Struggles with literacy/communication		Difficulties and challenges when implementing digital literacy workshops.	"It took about 15 minutes for all of the students to send an email, which is much longer than it should take for them to write a brief email explaining their topic sentences."
	Attentiveness	Lack of attentiveness of students and their resulting work.	"Many students were not reading instructions clearly, which results in miscommunication and the end product not being what is being asked."
	Problem-solving skills	Challenges with students' ability to practice critical thinking and complete the task that is in front of them.	"I noticed that students who were disengaged did not show as much progress as the others, and raised their hands to ask questions about things that I had already shared prior to their activities."
	Writing errors (formatting)	Challenges with writing, specifically with formatting, syntax, and structure.	"Good Morning Mr.Tsuneki I have a question about the deadline of the assignment , I do not know whether it is due on Thursday or Friday regarding the Email you sent saying it is due on Friday but in class you said it is due on Thursday and I am confused about the whole situation."
	Writing errors (spelling and grammar)	Challenges with writing, specifically with grade-level	"Model T and other car's in the 1920's."

			spelling, grammar.	
Student attitude towards technology/digital literacy		Students' references and perspectives towards technology and online platforms in their lives.	"Because I feel like whenever I don't have my phone or like, I don't have anything with me technology-wise, I can't communicate with people and it makes it harder"
	Self-perception with writing/ communicating.	Students held a negative view of their ability to write and communicate online.	"When asking students how to write an email, Caleb answered that he has completely no idea how to do so. "
	Growing up with technology	Student experiences that make their generation unique from prior studies.	"I think around the age of third grade… (I) had a computer that we would play some games on and then around… fifth grade, I got my first phone… I think I got pretty early access to technology because of that."
	Technology in daily life	Student perspective on using technology and online platforms in day-to-day settings.	"During COVID and stuff, I was glad that I could just like text my friends and stuff like that instead of like having a meetup."
	Technology in the classroom	Student perspective on using technology and academic platforms in the classroom.	"On the computer, of course, I don't find myself needing too much help."
Implementing Digital Literacy Workshops		The benefits and areas of growth observed after implementing digital literacy workshops.	"Numerous students shared how they had no idea how to approach emails prior to their workshops but now have a better grasp after having a model to follow."

	Literary skills	Improvements in formatting, spelling, and grammar through instruction.	"Dear Mr. Tsuneki, I am having some trouble finding one more source on EBSCO for how the saxophone was the most important instrument in the Jazz Age."
	Digital literacy	Improvements in navigating through information and synthesizing it.	"Students learned how to synthesize their information into the classwork, which helped them identify the necessary information and combine them together with effective commentary.?
	Digital citizenship	Impact on students' ability to communicate on online platforms.	"I think that really changed my perspective on trying to always be formal, just like a higher-up or like a teacher trying to communicate professionally"
	Problem-solving skills	Practicing critical thinking and completing the task that is in front of them.	"I was wondering if I could come into tutorials to get some help on finding the last one."
	Following structure and modeling	Student improvement on following an example and completing tasks.	"While some were able to see the example that is being modeled and follow the exact same format, others went beyond the example and wrote specific connections on their own. "
Professionalism		Improvements in students' ability to demonstrate professionalism in both academic and practical settings.	"If I'm messaging like a teacher… it's going to be more professional."

	Professional writing	Students' professional writing in independent work.	"And I think that really changed my perspective on trying to always be formal, just like a higher up or like a teacher trying to communicate professionally"
	Professional mindset	Students' professional attitude and mindset when communicating.	"when I'm like texting with my friends I don't usually make it formal, but when it's like with a teacher or something, I make sure to make it formal."