

THE IMPACT OF DIGITAL TOOLS ON THIRD GRADE STUDENTS' WRITING
MOTIVATION AND REVISION SKILLS

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The Impact of Digital Tools on Third Grade Students Writing Motivation and Revision Skills

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ABSTRACT

The purpose of this action research study was to determine the impact that digital tools have on students' writing motivation and revision skills. Writing instruction plays a crucial role in developing students' communication and critical thinking skills, yet traditional approaches often fail to fully engage learners. Many students I have worked with in recent years lack motivation to write. After analyzing theories and research, it became evident that classrooms are increasingly integrating digital literacy as part of 21st-Century learning. To explore this shift, fifteen third grade students were selected to participate in this study. These students received writing instruction incorporating digital tools, with the goal of examining how such tools might enhance their motivation to write and improve their revision skills. Over a six day study, data was collected through field journal notes, student work samples, checklists, rubrics, and a student completed self-reflection. The data collected shows that digital tools can be used to improve third grade students' motivation to write and ability to make revisions to their writing. Suggestions for future research and recommendations for teachers are included.

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CHAPTER I

Statement of the Problem

Introduction

In elementary classrooms, fostering motivation to write is essential, as this is the stage where students develop attitudes and habits that will shape their long-term engagement with writing. Based on observations from my students, past and present, there has been a noticeable decrease in the motivation to write. I have worked with students who have struggled to see the value in their writing and demonstrate a lack of confidence in their ability to write. There many factors that young learners face that can diminish their motivation. Factors that have contributed to the problem of diminished motivation include low autonomy and competence (Gagne & Deci, 2005). Autonomy relates to the sense of control that students have when completing a writing task while the low competence relates to the feeling of lacking the skills or ability to write correctly and effectively (Gagne & Deci, 2005).

Our country is exiting a time period where our students were faced with the challenge of learning remotely due to the COVID-19 Pandemic. COVID-19 rapidly spread around the world resulting in a public health crisis that affected almost every aspect of life. Schools were shut down for months completely and students spent almost half a year learning from their homes via a computer screen. In recent data collection, the National Assessment of Educational Progress (NAEP) found a five point decline in nine year old student's academic performance in Language Arts from 2020 to 2022(National Assessment Governing Board, 2022). As teachers and students transition back to the classroom, teachers are challenged with the task of how to re-engage students while also increasing their writing performance.

The COVID-19 Pandemic has had lasting effects of standardized test scores in New Jersey. While passing rates increased from previous years in 2023, they still have a way to go to bring achievement back to pre-pandemic levels (O’Dea & Gross, 2023). According to data that was obtained from New Jersey Department of Education (2022) the percentage of students who achieved a passing level of proficiency in English language arts for grade four was 51.3% in 2023, compared to 57.4% in 2019. Based on this data, New Jersey students are still recovering from the effects of the COVID-19 pandemic. Just like how low test scores at the state level may indicate struggles with writing proficiency, my student’s lack of motivation may also be contributing to the problem. When my students face challenges with writing, I notice they often lose confidence. This includes students disengaging with writing tasks, avoiding writing assignments, or showing little enthusiasm to improve their work. This may be tied to their perception that writing is difficult and unrewarding. Based on this information, my classroom may not be considered an isolated case, but part of a larger system affecting many students in the state.

Many schools across the United States are grappling with the challenge of motivating students to write effectively, despite the growing integration of digital tools. National reports such as the National Assessment of Educational Progress (NAEP) show significant declines in writing proficiency. Specifically, only 27% of eighth graders were performing at or above the “proficient” level in writing, based on the most recent data available from the NAEP’s 2011 writing assessment. This indicates a significant number of students who are struggling. The rise of Multiliteracy, however, has sparked excitement amongst learning by expanding on how students interact with text. Instruction is shifting to acknowledge the diverse ways people read, write, and communicate in today’s multimedia-rich world (Cole & Pullen, 2010). Understanding

how to motivate elementary students through individualized approaches, including the use of technology, is crucial to fostering both their academic development and lasting enthusiasm for writing.

Based on my personal experience, I see a rise in interest and knowledge surrounding technology, paired with a decrease in motivation to complete handwriting based tasks. In my own classroom, it has grown to be more difficult to get students enthusiastic about writing. I often find that students demonstrate the negative mindsets about who they are as writers. This mindset has been observed to be shaped by frustration with spelling, grammar, or handwriting, leading to feelings of inadequacy. I have found that when students associate writing with stress or failure, they begin to disengage from the activity entirely. This negative perception has left many of my students calling themselves “bad writers.” Furthermore, it has become a frustration of mine as a teacher to get students to take the time to look back at their writing and revise it to make it better. While these challenges have been disheartening, the past few years I have noticed a shift when integrating technology into my classroom. Digital tools such as writing apps and online resources have the potential to transform the ways students engage with writing. In my third grade classroom, it is the first year in my school that students are presented with 1 to 1 Chromebooks. However, teachers at my school often find it time consuming to explore the digital tools that support students’ writing. I believe that learning how we can use these tools to help alleviate frustrations and offer ways for students to express themselves with greater confidence, will lead to finding teaching practices that foster a positive and productive writing environment.

Research Questions

Based upon the problem identified above regarding the lack of motivation that students demonstrate towards writing and their level of interest with technology will be examined through the primary research question. . This research question is how does the incorporation of digital tools influence student's motivation to write?

In addition to the primary research question identified above, this study also examines a related questions and observations:

How do digital tools impact student's writing during the revision process?

What was the pattern of independent behaviors observed over the course of the 6-week intervention?

Definition of Terms

This section gives a definition of terms that will be used throughout this research study. This research study will be designed to answer the research question how does the incorporation of digital tools influence student's motivation to write? For the purpose of this study these terms are defined as follows.

Digital tools: Digital tools in this study refers to applications such as Chromebooks, collaborative tools such as Google Docs to provide digital feedback and track revision changes, as well as online thesaurus and dictionaries. .

Impact: Impact in this study refers to the outcome of a writing piece with the inclusion of digital tools during the revision process.

Students: Students in this study refer to the boys and girls in my third grade classroom between the ages of 8 and 9.

Self-Efficacy: This term refers to a student's belief in their ability to successfully complete a writing task.

Motivation: In this study, motivation refers to the desire and willingness to complete a writing task.

Multiliteracy: Multiliteracy is an approach to literacy theory that was developed by the New London Group in 1996. This term refers to the ways teachers engage their students in technology to be able to create meaning across multiple forms of communication.

Cognitive Evaluation Theory: Deci and Ryan's (1996) theory studies how intrinsic motivated behavior refers to the actions that people engage in because they find the activity enjoyable, not because they are being rewarded for it. This theory is a sub-theory of the Self-Determination Theory, which focused on human motivation and personality, developed by Edward Deci and Richard Ryan.

Autonomy: This term refers to students acting with a sense of power or freedom of choice (Cole & Pullen, 2010).

Competence: This term refers to a student's ability to effectively complete a writing task (Cole & Pullen, 2010).

Relatedness: This term refers to the need to feel connected to others, such as receiving feedback from teachers or peers.

Theoretical Framework

This section presents the theoretical framework selected based upon the research question. This research question is how does the incorporation of digital tools influence student's motivation to write? This question was used to identify the theoretical framework. This framework includes the following theories: *Multiliteracy Theory*, created by the New London

Group (1996) and *Self-Determination Theory*, developed by Edward Deci and Richard Ryan (1985).

Technology is continuing to be developed at rapid speeds. For years, students have been exploring only printed texts and answering questions based on the print that they read. The New London Group (1996) concept of Multiliteracy expands on how the definition of literacy has changed and evolved into “new literacy.” Multiliteracy refers to the ability to interpret, create, and navigate multiple types of texts, media, and languages (Bell, 2019). It includes the use of multiple modes of media that goes beyond just the use of written texts to make meaning. Mirra et al., (2018) discuss how “The protectionist approach is often used alongside the media literacy approach, which characterizes digital content as a genre of informational text roughly equivalent to print-based forms like essays or books and focuses on teaching students to understand its structure and purpose to avoid being manipulated” (p. 14). Thus, the protectionist approach in the context of media education articulates how young students are at risk of being consumers of potentially dangerous content (Mirra, et al., 2018). Whereas the media literacy approach emphasizes analyzing digital content to understand its unique structures. These methods of instruction are reimagining learning to go beyond traditional text-based print.

Cole and Pullen (2010) state, “Multiliteracies is also about the work of teachers, but address it through the ways in which pedagogical mores may be understood as being in motion from “overt instruction” to “transformed practice” (p. 5). Transformed practice relates to how teachers are able to switch between contexts of instructional practices, such as technology, to “assimilate their teaching style with the socio-cultural factors that are determining the behavior of the cohort in any particular context (including the use of digital technology)” (Cole & Pullen, 2010, p.5). The ability to make meaning for learners today requires students to make meaning

from one concept to another. Oftentimes, students may try out different modes to help them create a deeper connection. This shows how students engage in the learning process within the transformed practice of adaptable instruction. Teachers revising their methods enables students to actively experiment connecting concepts across different modes, which completes the cycle of meaning making in today's multiliteracy environment.

Furthermore, Rowsell and Walsh (2011) write, "We are constantly reminded in education that the mastery of the tool itself is not the outcome but how we use it" (p. 60). We are shifting towards a time in education where it is the teacher's responsibility to equip students with the skills to interpret and create meaning across different modes of communication, fostering adaptability and comprehensive literacy. The incorporation of these digital tools necessitates a shift in how literacy is taught. Therefore, these skills not only prepare students for academic success, but also for future workplaces that technological proficiency and the ability to collaborate and communicate effectively in digital environments.

Further, this study is grounded in Deci and Ryan's (1985) Self-Determination Theory (SDT) that provides a framework to understanding of intrinsic motivation, or engaging in activities for inherent satisfaction, rather than external rewards. An important part of this theory is the fulfillment of three psychological needs: autonomy, competence, and relatedness. Gagne and Deci (2005) state, "Autonomy involves acting with a sense of volition and having the experience of choice" (p. 333). Autonomous motivation involves "people engage in activity because they find it interesting..." (Gagne & Deci, 2005, p. 334). Whereas the authors continue, "In contrast, being controlled involves acting with a sense of pressure, a sense of induce controlled motivation" (Gagne & Deci, 2005, p. 334). Thus, autonomous motivation involves

engaging in behavior because it is internally driven, whereas controlled motivation is driven by external pressure such as rewards, or punishments.

As mentioned above, autonomy refers to the sense of control over one's choices. Gagne and Deci (2005) emphasize the importance of competence and autonomy for all individuals. The theory focuses on "the consequences of the extent to which individuals are able to *satisfy* the needs within social environments" (Gagne & Deci, 2005, p. 337). Competence, referring to an individual feeling capable and relatedness referring to a sense of connection or relevance. In context of writing, students are likely to feel more motivated to continue writing when they feel as if they are in charge of their own actions, improving their writing skills, and receiving feedback from teachers or peers that their writing is valued. Gagne and Deci (2005) state that when these needs are satisfied, people experience higher levels of intrinsic motivation, well-being, and personal fulfillment. Conversely, when these needs are not met, motivation tends to diminish and relied heavily on external rewards, leading to lower levels of engagement.

Educational Significance

The purpose of this study is to examine the research question how does the incorporation of digital tools influence student's motivation to write? This question is extremely significant because it is important that we learn as teachers how to incorporate the use of platforms to help support students writing needs and how it impacts their motivation to write. Teachers will be able to learn from this study so that they will be able to effectively use digital tools to maximize growth in their students writing. They will learn how to incorporate tools such as word processors, text-to-speech, and online grammar and vocabulary tools to assist students writing and potentially impact their level of motivation. Digital tools can make writing more engaging for students and enhance the quality of their writing. The educational landscape is constantly

evolving with technology. By learning about digital writing tools, teachers can stay current with educational trends and better prepare their students for future challenges. Students also have different learning preferences. Digital tools can cater to various styles of learning, creating a differentiated learning experience.

CHAPTER II

Review of the Literature

Overview

This chapter reviews the literature that is relevant to the primary question identified in this study. This research question is how does the incorporation of digital tools influence student's motivation to write? This review of the literature examines research studies that looked at digital tools, motivation and self-efficacy, and digital storytelling.

Digital Tools and Writing Instruction

McCloskey (2024) conducted a study to determine the ways that digital tools can be used for writing instruction in elementary classrooms. McCloskey felt that there is a lack of integration of technology in elementary schools and felt that this can put students at a disadvantage in the digital world. The study focused on three elementary teachers who embraced digital tools in writing in hopes of gaining a better understanding of how they are currently being utilized in elementary writing. These teachers worked in Baccalaureate schools in Eastern Africa, Eastern Europe, and Western Europe with reliable internet connections and one-to-one devices for students. Following a qualitative research design, McCloskey (2024) used an instrumental case study along with research method supported by the Technological Pedagogical Content Knowledge framework, which uses content, pedagogical, and technological knowledge to integrate technology effectively. The case study used teacher interviews to understand how the teacher participants utilized these tools while also examining their attitudes toward writing instruction. These interviews each lasted one hour and allowed teachers to share information based on how, why they use digital tools in writing, and their attitudes towards the inclusion of

these tools. One way this study encouraged the use of digital tools in writing was based on the findings that students preferred to write digitally, and almost always selected the technology device for writing. The findings also suggested that the writing experience for students has shifted with digital tools changing how students write. The participants explained how they collaborate with their colleagues to find which tools are effective in writing instruction. Further, the participant's school's approach to technology integration impacted the instruction decisions made. As a matter of fact, teachers are now adjusting their expectations for writing in order to consider how and when tools such as autocorrect can be used. Even so, the participants emphasized the importance of preparing students for a more digital era beginning in elementary school.

In the next study, Girmen et al. (2021), analyzed twenty-seven fourth grade students from a school in Turkey to explore the students' experiences with a technology-supported writing approach. Students were assigned the task of preparing an informative short video introducing local historical and tourist attractions to first grade students. The students worked in groups of three and created figures or puppets to use as characters in the video. Students collected information on the places by reading brochures and taking visits in person. Then, students began to write the informative text and build their videos. Throughout the writing process, the students felt that their knowledge grew about the use of technology and sought enjoyment from it. It is important to note the reaction from students when sharing their published work at the end. Many students recalled feeling like their technology competence grew and felt a sense of pride when showing their finished videos. Additionally, the technology-supported writing approach encouraged students to play an active role in the writing process and reflect on how the process could be more functional. A summary of the students' opinions focused on the fact that they felt

they had difficulty writing about the historical place or tourist attraction. Thus, while this study demonstrated students' knowledge grew in regard to their technology competence, these struggles could have been caused by developmental characteristics and having never performed this type of activity before. The research in this study showed that the learning activities implemented improved student's attitudes and knowledge about technology. This emphasizes the importance of designing student-centered activities that help to create a written text by doing and experiencing.

Asikcan (2023) investigated the use of lesson plans with the inclusion of digital tools to improve students' vocabulary knowledge and the perceptions of the students throughout the implementation process. The study was designed using an action research method and consisted of 32 fourth-grade primary students in Konya, Turkey.. Before students were assigned a lesson plan, the researcher administered a pre-assessment that assessed students vocabulary levels and that was used to develop each lesson plan. The four lesson plans consisted of listening-based, speaking-based, writing-based, and reading-based activities. All of the plans also included a digital tool that the students would be participating in three days a week, throughout the four-week study. Before implementing the lesson plans, teachers received training from the researcher to familiarize themselves with the execution of each of the plans. Due to the challenges with some of the activities, some of the digital tools needed to be operated via the teacher's computer or the smart board. Throughout the study, the students demonstrated engagement and enjoyment when participating in each of the activities. Additionally, the implementation of group strategies helped to positively influence students' motivation and willingness to learn. Mehmet (2023) indicated that active participation of students in activities has been observed to enhance understanding of new vocabulary. Going along with this, students demonstrated performance and

assumed different responsibilities in the activities which helped to foster active engagement in the learning process. Providing clear expectations to help teachers form an understanding of the digital tools, also was shown to make an impact on their student's overall understanding of the expectations and purpose of the activities before they were implemented. At the end of the study, post-test results were analyzed having a significant difference in the student's vocabulary scores, compared to the pre-test. In addition to the qualitative data, the quantitative results also showed that the lesson plans implemented were generally effective in developing student's vocabulary. As a result of students' engagement and enjoyment during the activities fostered a positive attitude toward writing, making them more willing to participate and experiment with their writing skills.

Lastly, Hagerman and Neisary (2024) conducted a study that analyzed teacher insights on digital literacy learning needs of their students. The exploratory case study consisted of interviews with thirteen rural-serving, fourth to sixth grade teachers in Ontario, Canada. The teachers expressed concern regarding the rise of digital literacy in relation to growth of digital marginalization for children who are least connected. The interview questions focused on in-school and out-of-school digital activities, including Internet use, foundational digital literacies learning at school as well as instructional approaches. Finally, the research questions wondered in what ways are students impacted by the inequalities of digital access or skill. The findings suggested that teachers with the most devices and access to the Internet used technology for a variety of instructional purposes on a daily basis. In contrast, teachers who needed to take students to computer labs, reported using the Internet the least. Additionally, two teachers reported that at-home differences in access were indicators of the digital skill students are able to utilize for school work. The researchers also found that students were proficient in adding

pictures and changing fonts but required further guidance to make sure that online writing was organized and coherent. Students seemed to apply different notions of writing conventions when writing in digital contexts and needed reminders of punctuation, capitalization, and spacing. The teachers also found that digital platforms that offer text-to-speech give writing support in the contexts of accuracy and organization. Overall, this study found that students who don't have access to the Internet at home are using technology less, which may cause them to be exacerbated at school when technology is used. Hagerman and Neisary (2024) call for more studies to be conducted to understand what resources and interventions can be planned to provide support for these students both in and out of school.

Motivation and Writing

There have been a variety of research studies conducted to explore the various factors that impact student motivation in writing. Aktas and Akyol (2020) conducted a study to determine the effect of digital writing workshop activities on student's story writing skills and writing motivation. Participants in the study included thirty fourth grade students located in the Province of Ankara, Turkey during the 2017-2018 school year. The researchers used a quantitative research method that used an experimental design by splitting the students into an experimental and control group. Data was collected over a span of fourteen weeks in which students were asked to write stories using different digital platforms for each stage of the writing process. The experimental group, consisting of fifteen students, were provided with digital writing workshop activities, and the fifteen control group participants used traditional non-digital writing activities. The researchers used The Motivation to Write Scale, the Story Elements Evaluation Scale, and the 6 + 1 Analytical Writing and Evaluation Scale to assess students' progress. The researchers found that students in the experimental group demonstrated growth in

writing organization, word choice, sentence fluency, and spelling conventions. In the final assessment of story elements and writing quality, it was determined that there was a significant improvement in the student's story writing skills. However, the experimental group showed a decrease in motivational scores after participating in the digital writing workshop whereas the control group did not show any change in their motivation scores. Thus, it can be inferred that the digital writing workshop activities decreased the student's writing motivation. It was determined that digital environments enable students to create more detailed texts by developing the quality of their writing, but affected the way students viewed themselves as writers. This was due to the fact that students had difficulty using some of the digital platforms. It is recommended that teachers provide students with explicit instruction on how to use these applications in order to help set them up for success.

In the next study, Martin and Bell (2024) examined the connection between writing self-efficacy and writing achievement of elementary-aged students. Sixty-one participants were selected from Title 1 schools in grades three to five and asked to complete . A correlational research design utilizing two writing self-efficacy scales including the Writing Skills Self-Efficacy Scale (SES; Pajares, et al., 2001) and Narrative Writing Self-Efficacy Scale (NES), which was developed for this study. These scales were developed in order to assess the self-efficacy of writing a narrative using a picture prompt. The researcher's findings suggest that students must be motivated in various ways when completing writing assignments or activities as there is a long list of revisions that may need to be made when writing. For example, if a student does not feel efficacious about their spelling ability, they are less likely to attempt revisions in this area. On the other hand, students who do feel efficacious about spelling, may understand the importance of implementing revisions in this area. The results indicated that as the students' self-

efficacy related to story writing increases, the student's writing achievement also moderately increases.

In the next study, Abdullah et al. (2022) investigated the use of Nearpod in an elementary school to improve student learning motivation during remote instruction. The study took place in a private elementary school in Malang, Indonesia. A total of fifty-one students were studied in three separate grade levels: first, second, and fifth. Data collection was based on the theoretical framework of Interest-Driven Learning (IDL) and the FourPhase Model of Interest Development. This qualitative experimental research data collection consisted of observations, log sheets, and interview guides. Nearpod is an interactive learning platform used to create multimedia content, quizzes, and collaborative activities. The inclusion of Nearpod in lessons helped attract students to pay attention to the lesson and build up student's learning interests as well as curiosity which played a role in the level of engagement amongst the classes. However, it was determined that the use of just the application of Nearpod itself was not enough to motivate the students. Observational data found that some students needed to be motivated with positive encouragement during the activity to help reduce anxieties when using the program. Some of the challenges of the application included slow performance which resulted in students feeling frustrated. Nevertheless, the increase in attention and engagement came from the interest shown by the students. Teachers who implemented the use of the application found that it helped to assess students' learning effectively and motivate their students using a digital platform that is different from the traditional style of teaching. . The curiosity of the students is suggested as one of the factors that drive students to have an interest in learning. Nearpod is an example of one platform that can be used to create more interactive, collaborative lessons that can be used to engage students in the writing process.

Impact of Feedback in the Revision Process of Writing

Recent studies have analyzed the impact of digital feedback on student learning, highlighting its effectiveness in enhancing engagement and improving writing performance. Lee and Bernstein (2022) investigated the effects of online collaborative revision instruction on narrative writing performances of upper-elementary students in a Mid-Atlantic Appalachian state. Participants included two special education teachers and two gifted education teachers who each selected five students from their class. All students completed a pre-test to assess their narrative writing skills, categorizing them as “struggling” or “skilled”. Using the digital platform Storybird, students were assigned a writing task where struggling writers were paired with skilled writers from other schools. These pairs could provide feedback comments via the digital platform, while a control group worked independently. Results showed that struggling writers who received specific, direct feedback from skilled writers demonstrated notable improvement in their writing. Teachers observed that these students effectively incorporated the feedback they received into their revisions. In contrast, skilled writers paired with struggling peers received mostly broad feedback, such as adding sensory details, which contributed less to their improvement. This disparity in feedback quality appeared to impact the skilled writers’ revision process less positively. The researchers concluded that the improvement in struggling writers performance was due to the high-quality models and specific feedback from their skilled counterparts. While the participants enjoyed using the digital platform, this study underscores the potential benefits of pairing students with similar skill levels to enhance the effectiveness of the feedback process.

Högemann et al. (2021) studied feedback approach profiles to determine how they related to students’ writing quality and motivation during the revision process. The twelve week

study, completed in Portugal, consisted of forty-five third grade students identified as students struggling with writing. A feedback tool was created in which the teachers provided comments that referred to how students were doing working towards their goal, how they are doing, and specifically how they can improve. The researchers' noted how the extensiveness of the teacher feedback can undermine students' revision performance. They wanted to see how students were able to take the feedback to improve their writing quality. Additionally, students completed a writing attitude survey to indicate how they felt when engaged in writing activities at school or at home. The findings showed that majority of students were able to use the feedback provided by their teacher, perceiving it as useful in improving their writing. The researchers' gathered evidence on all students enhancing their writing quality during the intervention. In contrast, there was no statistically significant differences in self-regulation in writing and the participants' attitude towards writing. In conclusion, the study suggests the importance of teachers providing descriptive feedback to enable student's active participation in the writing process and a positive impact on their writing quality.

Zumbrunn et al., (2022) investigated the trajectories of students' attitudes towards receiving feedback on their writing from teachers and peers in a broad sense. A large group consisting of a little over a thousand participants in grades three to seven over three consecutive academic years were studied using a cohort-sequential design. Data analyzed included two single-item measures to assess students' attitudes using a scale of to measure how students feel when a teacher comments on their writing and when a classmate comments on their writing. Additionally, researchers used latent growth models (LGMs) to investigate the development of students' writing feedback attitudes, which was used to observe modeling mean changes over time. The results suggested that trajectories seem to shift between fifth and sixth grade. So,

different processes of feedback are recommended in grades three to five and grades six to seven. Additionally, the decline between grades five to seven, may have something to do with the relationship between teacher and student, as students may have different relationships with their middle school teachers versus elementary school. Thus, as students get older, they like to receive feedback less and less, which is a challenge for teachers. While this study offers no explanation as to why students' attitudes towards writing feedback change over time, it leaves questions for future studies to investigate how teachers can structure feedback in order to improve students' attitudes in the revision part of the writing process.

Summary of the Literature Review

This section provides a summary of the studies used in this literature review. Studies selected for this literature review were based upon the research question. The research question is, how does the incorporation of digital tools influence student's motivation to write?

Many studies found that the use of digital tools helped to support teachers in writing instruction. Students participating in these studies demonstrated an interest and desire to write digitally, which shifted how students see themselves as writers (McCloskey, 2024). Teachers rely on one another to examine how digital tools can be utilized and many call for the need for technology integration to prepare students for a digital world, demonstrating that students preferred digital writing tools over traditional methods (McCloskey, 2024). Similarly, Hagerman and Neisary (2024) highlight teacher's insights on digital literacy needs by discussing how access to digital tools affects writing instruction. Teachers who have more technology resources integrate these tools into daily activities, which enhances student learning and writing skills. Finally, Metmet (2023) found that incorporating listening, speaking, writing, and reading

activities that included digital components during writing instruction enhanced vocabulary knowledge and engagement amongst the students.

Additionally, some studies explored tools that teachers can use to enhance students' writing skills across various stages of the writing process., Aktas and Akyol (2020) compared digital writing workshop activities with traditional writing methods and found that using a various digital platforms at different stages of the writing process improved writing organization and quality, highlighting how digital tools can enhance writing outcomes. Högemann et al., (2021) and Zumbrunn et al., (2022) focused on the feedback during the revision process. Zumbrunn et al., (2022) found that students' desire to receive feedback decreases with age, while Högemann et al., (2021) emphasized that teacher feedback should encourage students to reflect and use the information provided to improve their writing quality. Similarly, Lee and Bernstein (2022) found that students made higher-quality revisions when feedback was direct and specific during the revision process. Together, these studies suggest that strategically integrating digital tools and targeted feedback can play a critical role in developing students' writing skills.

Another theme observed across several studies is the role of motivation in writing instruction. Mehmet (2023) found that using digital tools for vocabulary increased active participation and positively influenced students' motivation to learn. This suggests that well-designed, interactive technology can enhance student's interest in writing. Similarly, Garment et al. (2021) reported that students enjoyed technology-supported writing approaches, though they struggled with writing about historical topics, which may have impacted their motivation. This highlights that while engagement with technology can boost motivation, the content and context of writing tasks also play an essential role in shaping student's attitudes. Additionally, Martin and Bell (2024) noted that students require various forms of motivation when completing

writing assignments, suggesting that motivation extends beyond skill improvement and includes building confidence in writing abilities. Next, Hagerman and Neisary (2024) raised concerns about the impact of digital access disparities on student's motivation, noting, that students with limited access were less engaged in digital writing tasks, potentially hindering their motivation and writing development.. Finally, Abdullah et al. (2022) pointed out that digital applications alone may not be sufficient to increase writing engagement; students may also need external factors such as positive encouragement for these tools be effective.

While most of the information in this review is similar in discussing digital tools and how it helps improve writing skills and motivation, many of the studies were completed across the world, with different groups of participants. Some studies were completed in the United States, (Martin & Bell, 2024), while others took place in countries such as Portugal (Högemann, et al., 2021) or Africa and Europe (McCloskey, 2024). The chosen group of participants were also different. Some focused on gathering information from teachers (Hagerman & Neisary, 2024) while others studied elementary aged students (Mehmet, 2023). A few of the studies concluded a list of recommendations on the importance of teacher knowledge of digital platforms. Abdullah et al., (2022) concluded intensive training for digital platforms such as Nearpod would be helpful to assist students in the implementation of these digital platforms. Additionally, Girmen et al., (2021) noted that teachers should be informed on the application and be shared with examples to use in the modeling of the form of technology. When teachers have the resources to effectively implement these applications, they can have a long lasting effect on student's writing skills and level of engagement.

CHAPTER III

Research Design

Introduction

Building motivation for writing is vital in an elementary classroom setting. In recent years, there has been a notable decrease in students' motivation to write. Students have struggled to demonstrate confidence in their ability to view themselves as writers. The focus of this study examines two primary research questions: how does the incorporation of digital tools influence student's motivation to write? and how do digital tools impact students' writing during the revision process? This chapter provides an overview of the research setting and participants, as well as data sources and analysis procedures relevant to the primary research question identified in this study.

In this study, I serve as both a teacher-researcher and participant-observer, engaging directly in the classroom setting to explore how digital tools influence student motivation in writing. This research employs a qualitative model, emphasizing a deep understanding of student experiences within a naturalistic context. Data analysis will utilize a constant comparison method that identifies patterns within and across multiple data sources. As a hypothesis-generating study, the focus is on discovering insights and potential theories that emerge from the data. This approach aims to illuminate underlying factors affecting student motivation, particularly related to writing, in a digital learning environment.

Research Approach

To examine the effect of digital tools on students' motivation to write and the effect it has on the revision process of writing, a mixed methods approach to action research was selected. This includes qualitative and quantitative methods to provide valuable insights into instructional practices to determine their impact on student learning and achievement. The purpose of the qualitative portion of my study aims to gain insight on how students make sense of their educational experience (Efron and Ravid, 2019). This will include obtaining the perspectives of my students' thoughts using digital tools as well as detailed observational notes to determine the ways in which they use them and whether it has an impact on their motivation to write. Using multiple sources will help me to observe writing situations and events as they occur naturally in hopes of understanding how the individuals in my class interpret and experience digital tools in regards to writing. Next, the quantitative approach aims to collect numerical data from individuals in my class to analyze a cause and effect relationship (Efron and Ravid, 2019). This method will explore the effect that digital tools have on students' writing by studying the use of each tool, looking at how much time was spent and the number of errors or suggestions applied. This data will help me articulate the relationship between digital tools and the effect it has on the revision process of writing.

The end goal of my research study is to collect evidence that helps me to understand how the experiences with digital tools helps to increase positive student attitudes towards writing. Additionally, I want to determine which tools specifically aid in students' ability to make accurate revisions or which feedback suggestions are applied into their writing. Therefore, a qualitative method of study will allow me to collect detailed, written evidence to focus on the experiences and perspectives of the participants in my study. Additionally, studying motivation

helps to uncover the environmental contexts that influence behaviors and attitudes, through the use of qualitative data. Last, quantitative data in this study will allow me to analyze findings to look for trends, patterns, and correlations. Understanding the effect of digital tools on student's work, requires me to study the frequency of use, the amount of time spent, and the number of errors or feedback suggestions made. This data will produce objective results that are able to be studied in order to draw conclusions about the effect of the interventions applied in this study.

Research Setting

This section presents the setting for this research study. This study is designed to answer the research question: how does the incorporation of digital tools influence student's motivation to write? This research study is set in a school district located in Northern New Jersey.

The town in which this research study will be conducted is a large suburb setting. It is a middle to upper class socioeconomic community, with a population of just over six thousand people. The main ethnicities in the makeup of the town include 79.2% White, 4.38% Asian, and 4.4% Other. None of the households in the town reported speaking a non-English language at home as their primary shared language.

The public school district in which this study is conducted consists of one elementary and one middle school, serving a population of seven-hundred and forty six students. There are eighty three full time teachers in the district, with an 11:1 ratio in the elementary school and 5:1 ratio in the middle school. Both schools serve a combined 42% minority enrollment, 20% in the elementary school and 22% in the middle school. The gender makeup of the schools each includes 50% of students who are male and female.

The focus of this study will be the single elementary school located in the district. The school has approximately five hundred students enrolled, serving preschool through fifth grade. The student population consists of 79% Caucasians, 9.1% Asian, 9.1% Hispanic, and 1.5% Multiracial. Only 0.8% of students receive free or reduced-price lunch. Of those five hundred students, approximately eighty of them are in third grade, which is the participant focus of this study. Each grade level consists of four homeroom classes, with first grade being a current exception with five homerooms. Each grade level also includes one resource room serving special education students, along with one LLD (Learning-Language Disabilities) classroom, which serves the whole school. There is a full time counselor as well as two school psychologists to assist students. The school offers after school enrichment classes, provided by the district parent-faculty association.

The third grade classroom in which this research setting takes place consists of eighteen students, eleven boys and seven girls. Students in this study are either eight or nine years old. The classroom layout consists of five tables arranged into groups of four. During whole group lessons, students sit on the carpet while being taught from a whiteboard and projector. Writing lessons follow the Writing Workshop method, consisting of a whole group mini-lesson, independent work, and ending with a whole group share. Writer's Workshop is taught in the afternoon for forty minutes, five days a week. As the teacher-researcher, I conference with students in small groups or one-on-one during the independent work portion of the lesson. Conferences consist of goal setting, or providing verbal feedback in regards to students' writing and ideas. This is the first year in the school that students are provided one-to-one Chromebooks. Chromebooks are used daily in mostly math, word study, and writing. Students have been familiarizing themselves with the keyboard and practice their typing using an online platform,

Typing.com. In regards to writing, which is the subject of focus in this study, students draft their stories using pencil and paper, and type out the final draft onto a Google Document.

Research Participants

As the participant-observer for this study, I bring four years of teaching experience, including three years specifically teaching third grade. I received my Bachelor's degree in Early Childhood and Elementary Education from Pennsylvania State University. My goal as a teacher is to create an environment where my students feel comfortable and confident in the classroom. I believe that these two factors set students up for success and I aim to find ways to support them in any way I can. Based on the behaviors and attitudes I have observed in writing when it comes to the lack of motivation students present, I am driven to understand the underlying factors that contribute to this disengagement and how I can better support my students through the strategy of digital tools.

Eighteen students participated in the study, consisting of eleven males and seven females. They are all third graders who receive writing instruction in my classroom. I have three students who receive special education services through an Individualized Learning Plan (IEP) that is designed to support their educational needs. My class does not include any students who are identified as English Language Learners (ELLs).

Digital Tools

Several digital tools will be used to measure the impact on their ability to make revisions to their writing, as well as assessing the effect it has on their writing motivation. Spell and grammar check will be implemented to provide students with immediate feedback on basic

errors, helping them identify and correct mistakes independently. Voice typing will be used as an alternative for helping them to spell words accurately. The comments feature on Google Documents will enable targeted feedback and discussions between teacher and student. Track changes is another digital tool that will allow students to visually track their edits and reflect on their progress throughout the revision process. Additionally, the online dictionary and thesaurus will be available to students to help improve word choice or spelling of words. These tools will be introduced throughout the study and analyzed to see the effect that they have on students' attitude and approach to writing.

Data Sources and Data Collection Procedures

This section will be used to identify what data sources will be collected to study the primary research question: how does the incorporation of digital tools influence students' motivation to write? To study the influence that digital tools have on student's motivation to write, multiple data sources will be used. These data sources include: observational notes, student work samples, a checklist to keep track of the frequency and effect of each digital tool implemented, a rubric to assess students' final writing pieces, and a self-reflection sheet given to the students at the end of the study.

Students participating in the study will be revising their personal narrative stories. First, written observations conducted by the researcher will offer an opportunity to systematically watch and record students' behavior, participation, and on-task performance during the revision process. This information will be recorded using a Researcher Journal. An observational schedule has been developed which includes three groups of students: A, B, and C. Figure 1 displays each group consisting of six students and the time spent being observed, which is total

of fifteen to twenty minutes every three days. Next, a checklist (Appendix) will be used to record the frequency, time spent, and number of spelling, grammar, or feedback suggestions applied for each of the digital tools implemented in this study. This checklist will be completed using written observations gathered by the researcher for each of the three groups. Additionally, student work samples, before and after the revision process will be used to complete the checklist. Finally, a rubric will be used at the end of the study to assess student's personal narratives after the completion of the revision process, using the student work samples. The criteria include engagement with digital tools, accuracy of revisions, collaboration with digital platforms, and quality of final revisions. This data will be used to analyze the impact and effect that these platforms had on student's ability to make accurate revisions and to determine any patterns. At the conclusion of the study, participants will complete a self-reflection to allow students to express their opinions based on the digital tools that were presented. Students will answer four questions that will have the option of selecting a happy, neutral, or sad face in regards to how they felt when using digital tools during the revision process.

Day of the Week (date)	Group (# of students)	Time Spent
Tuesday (10/29)	Group A (Participant #s 1-5)	20 minutes
Wednesday (10/30)	Group B (Participant #s 6-10)	20 minutes
Friday (11/1)	Group C (Participant #s 11-15)	15 minutes
Monday (11/4)	Group A (Participant #s 1-5)	20 minutes
Tuesday (11/5)	Group B (Participant #s 6-10)	20 minutes
Wednesday (11/6)	Group C (Participant #s 11-15)	15 minutes

Data Analysis Procedures

This section will examine the procedures used to analyze the data that has been collected in regards to the primary research question identified in this study. Using the multiple sources utilized in the collection of data, a constant comparison method will be used to identify patterns within and across data sources as the analysis procedures.

The purpose of this section is to explain what procedures will be used to analyze the data collected, based on the sources previously listed. Data collected will be analyzed using a constant comparison method that identifies patterns within and across data sources. This approach allows for the comparison of data, enabling the emergence of insights across different instances and data types (Efron & Ravid, 2019). By examining patterns within individual sources, such as student work samples, observations, checklist logs, and rubrics, and then comparing these across sources, I will work to uncover consistent themes related to student motivation in writing. This iterative process of comparison supports a deep understanding of how digital tools influence motivation, providing a basis for developing hypotheses grounded in the data.

First, observational notes will be examined using predetermined categories, including motivation, revision accuracy and skill, and engagement with digital tools. These categories will guide the identification of recurring themes across the groups of students observed on their scheduled day. Next, the checklist will be examined to assess the active use of each digital tool and how students applied feedback. This analysis will focus on the frequency of tool usage and its impact on the number of revisions made. Additionally, the rubric will be used to evaluate the overall improvement in students' writing by comparing their pre-revision work samples to their final completed personal narratives. Finally, the self-reflection sheet will be studied to look for

patterns in the effect of digital tools on students' motivation to write. This will provide a comprehensive view of each tool influenced in their writing development.

Validity and Reliability

To ensure the validity of findings in this mixed-methods study, several strategies were implemented to capture a comprehensive view of the effect of digital tools on students' writing motivation and impact on the revision process.

First, content validity was supported by using multiple forms of data including student self-reflections, classroom observations, work samples, rubrics, and checklists. By drawing from both qualitative and quantitative sources, the study aimed to create a holistic understanding of the ways digital tools influenced motivation and writing outcomes, reducing the chance that results reflect only one perspective or method. Additionally, triangulation was applied across data sources by comparing observational data with student self-reflections and writing samples to identify consistent patterns. For example, instances where students self-reflected on positive views of using digital tools to revise their writing and were observed spending more time revising their work were considered strong evidence of the tools' motivational impact. Additionally, by integrating both student reflections and observable behaviors, this study reduced the likelihood that results were skewed by temporary shifts or individual biases in a single source.

To enhance reliability, consistency of data collection was emphasized throughout the study. Observations were conducted at regular intervals, ensuring that each group of students was observed under similar conditions to minimize variability. Specific attention was given to how digital tools influenced student motivation and writing in the revision process, with

observational protocols in place to guide the documentation of behaviors and interactions. A structured schedule was implemented to keep track of data collection, allowing the researcher to focus on certain groups of students systematically while minimizing potential biases or oversights.

Furthermore, quantitative data from checklists and rubrics were measured on a standardized scale, ensuring uniformity in how responses were recorded and interpreted over time. The rubrics were designed with clear criteria that aligned with the study's focus, such as engagement with digital tools, accuracy in revisions, and overall improvement in writing quality. To address potential challenges, such as interruptions during lessons or variations in student participation, contingency plans were developed. For instance, additional time in observation sessions was allotted to fill gaps in data. By employing these strategies, the study aimed to maintain reliability and validity of the findings while accounting for the dynamic nature of the classroom environment.

Limitations

While this study aims to explore and enhance students' motivation to write and make revisions through the use of digital tools, several limitations should be acknowledged. First, the study was conducted in a single third-grade classroom, which limits the generalizability of the findings. The results may not reflect the motivational responses of students in different age groups, educational levels, or school settings, especially since motivation in writing can be influenced by developmental and contextual factors. Second, the duration of the study was relatively short, spanning only over a period of six days. Additionally, the consistency of my data collection was interrupted due to a field trip and Halloween festivities occurring during the data

collection period. A longer study period may have provided deeper insights into sustained motivational shifts and the long term impact of digital tools on the effect and engagement of students' writing. In addition, it is possible that students' initial enthusiasm for new digital tools might have skewed the findings towards higher motivation levels in the early phases.

Another limitation of this study is the lack of a direct comparison between student drafts revised with digital tools and without digital tools. Since the study focused on using digital tools to enhance and support students writing and level of motivation, there was no opportunity to observe how students' writing would have evolved in the absence of digital tools. Without baseline drafts or controlled writing samples, it is difficult to isolate the specific impact of digital tools on students' writing motivation and writing quality. The absence of a comparison limits the ability to full attribute any observed changes in writing motivation to the use of digital tools alone. Furthermore, due to the observational nature of this action research study, researcher bias might have influenced data interpretation, as the researcher was both an instructor and data collector. While every effort was made to maintain objectivity, prior experiences and expectations could have subtly impacted observations and interpretations of student behaviors and responses.

Lastly, taking on the role of teacher and researcher in this study presented significant challenges in balancing observational note-taking while actively assisting students. The demands of managing the classroom and responding to students' needs made it difficult to capture detailed observations in real time. To address this, I often resorted to making brief notes or mental reminders during lessons, which I later expanded upon after class. This approach had its limitations, it relied heavily on my memory and the ability to recall specific details accurately.

These limitations suggest that future students could broaden the scope by including multiple classrooms and grade levels, extending the study duration, and using baseline or controlled writing samples prior to implementing the use of digital tools. Additionally, the challenge of balancing the roles of teacher and researcher highlights the importance of employing methods that minimize disruptions to classroom instruction while ensuring thorough data collection.

Chapter 4: Findings

Chapter 4 provides the findings that were based on the analysis of data that was collected and described in Chapter 3. As a third-grade general education teacher, I have noticed that many of my students display a lack of motivation to write, specifically during the revision process. They often struggle to identify errors in their writing or integrate feedback to make their writing better. Therefore, I decided to focus my research study on implementing digital tools during the revision process of writing in order to study how it impacts my students motivation to write. Data was gathered from a variety of sources including observational notes, student work samples, narrative writing rubric, a digital tools checklist, and a student-completed self-reflection sheet. The research study was conducted to answer two primary research questions: how does the incorporation of digital tools influence student's motivation to write? And how do digital tools impact students' writing during the revision process? Other questions addressed while determining the findings of this chapter were:

- What was the pattern of independent behaviors observed over the course of the six-day intervention?

Data Collection

This study explored how the use of digital tools influences third-grade students' motivation to write and their ability to revise personal narrative drafts. Fifteen students were split into three groups and observed over a six-day period. The data collection process incorporated multiple data sources indicated in Chapter 3 to capture a comprehensive picture of student behaviors, attitudes, and outcomes related to writing. Observations were conducted twice weekly, focusing on students' engagement during writing sessions, their interactions with digital tools, and any self-initiated revision behaviors. Initial drafts and final versions of personal

narratives were collected to assess revision accuracy and skill. At the end of data collection, students completed a self-reflection sheet to describe their experiences with digital tools and how these tools influenced their approach to writing and revising. As the primary instructor and researcher, I maintained a reflective journal to record observations of student progress, unexpected challenges, and personal insights about the integration of digital tools in the writing process.

Data Analysis

Data collected was analyzed using a constant comparison method that identified patterns within and across data sources. The results of the data sources in the six-day study developed into three main themes: impact on writing motivation, impact of digital tools, and impact on writing behavior and performance.

Enhanced Engagement and Self-Perception

Recognizing that motivation is a critical factor in fostering sustained writing effort, I introduced a variety of digital tools aimed at enhancing students' interest and enthusiasm for writing. These tools included revision aids and collaborative platforms that were selected to provide opportunities for active engagement and immediate feedback. One of the central themes that emerged from this study was the impact of digital tools on students' motivation to engage in the writing process. This pattern is defined by students demonstrating increased enthusiasm, persistence, and interest in writing tasks when provided with access to digital tools. Through the use of these tools and instruction, students demonstrated patterns of satisfaction toward the revision process and self-initiated revisions.

The first digital tool introduced was the spelling and grammar feature in Google Documents. I demonstrated how to access this tool by navigating to the "Tools" menu and

selecting “Spelling and Grammar Check.” I also modeled for students how to address blue or red underlines by clicking on the highlighted words. Using my own personal narrative as a model, I walked them through the process step by step before having them explore the tool independently.

During this activity, many students expressed satisfaction toward the revision process by an increase in excitement about being able to remove the colored lines from their writing. Prior to this lesson, several students had voiced frustration about these lines appearing in their drafts and were curious about their purpose. However, in the early stages of the research study, one student enthusiastically stated, “Look at all the revisions I made to my writing!” (Student #13, 10/29/2024). Others shared their pride in removing the colored lines, with one student remarking, “I have no more blue or red lines!” (Student #12, 10/29/2024). This shows that these students were becoming more aware of and engaged with the revision process and their enthusiasm reflects a growing motivation to refine their work. As each additional digital tool was introduced, students responded eagerly, often collaborating with their peers to learn how to apply these features. For example, another tool that was particularly popular was the voice typing tool. On a frequency scale of 1 to 4, where 1 indicated 'never used' and 4 indicated 'always used,' the voice typing tool received a mean score of 3.0. This consistent data demonstrates that students regularly engaged with this tool, highlighting its popularity in the classroom. Several students, particularly those who typically struggle with spelling, expressed how the voice typing tool helped them focus on their ideas rather than getting stuck on spelling issues. One student noted, “This is cool when I say a word, the computer types it for me!” (Student #8, 10/30/2024). This indicates that the tool provided a sense of relief from spelling challenges and allowed them to concentrate on expressing their thoughts more freely. This improved self-perception likely

motivated them to participate more actively and take greater ownership of their work, further enhancing their overall engagement and willingness to explore and refine their ideas.

While most tools were met with enthusiasm, some challenges arose. For example, students noted that the “Track Changes” feature, which displayed revisions in green, made their text harder to read. Multiple students were recorded as needing extra assistance in explaining what the green lines meant. I explained to students that the green lines show what has been added to their writing and the cross outs show what is being taken out. Although when explained, they understood the benefit of tracking their edits, they expressed feelings of wanting to use another tool in order to better understand what changes have been made to their writing. Student #4 explained to the class, “Using the highlighter tool helps me to see where I am making changes. I also like to pick whatever color I want!” (Student #4, 11/1/2024). Many students were recorded removing the Track Changes and I assisted students in getting rid of the green lines. I observed a noticeable increase in independent student revision once this identified challenge was taken away. Despite minor frustrations, student reflections at the end of the study revealed that thirteen out of fifteen students enjoyed using digital tools during the revision process (Appendix). As demonstrated in Table 1, students recorded positive feelings towards the use of digital tools and the impact it had on how they saw themselves as writers.

Table 1

Summary of student responses to self-reflection questions

Question	Happy	Neutral	Unhappy
How enjoyable do you find using digital tools during the writing revision process?	100% (n = 15)	0%	0%
How confident do you feel about your writing after using digital tools?	80% (n = 12)	20% (n = 3)	0%

Do you feel that using digital tools makes revising your writing easier?	86% (n = 13)	13% (n = 2)	0%
Which face best describes how you feel when using digital tools to revise your writing?	93% (n = 14)	0. (n = 1)	0%

Along with the observed satisfaction with the revision process, motivation was also evident in the self-initiated revisions. Over the course of the six day revision period, students were observed daily with a desire to go back into their writing to rewrite sections or make changes to improve clarity. Students who previously had been noted for not reviewing their work or making careless mistakes, now had a sense of attentiveness and care in their revisions. One of these students was recorded as stating, “Can I go back and add more to my writing? I want to add more.” (Student #5, 11/4/2024). This comment was recorded on the last day of data collection and the last day of revisions. Additionally, another student explained to me that his middle was “too short” and that when he reread it to himself, he felt that he “wasn’t telling the full story” (Student #14, 11/4/2024) So, we worked together to brainstorm ideas on how we could expand on what was already written. On the days following observations noted students voluntarily going back into their writing and often rereading for ways to improve. Students were observed to be using tools that were introduced independently. For example, Student #11 was asked what he was looking for, as he was observed to be reading his narrative carefully. He responded by explaining, “I am looking for where I missed punctuation.” (Student #11, 11/4/2024). Another student sought guidance on how he could fix a spelling mistake that wasn’t being corrected by the computer. I suggested he used the voice typing tool to “speak” the word on his document. I witnessed his face light up and he was immediately successful in spelling the word correctly (Student #1, 11/4/2024). Overall, the students who engaged with the digital tools to revise their

writing were those who still had identified errors, as indicated by the underlined words and phrases. Meanwhile, students without underline errors were considered 'early finishers' and did not revisit their work for improvements. These observations highlight how the integration of digital tools fostered a newfound sense of ownership and intentionality in students' writing, with many demonstrating increased motivation to refine and improve their work independently. that these tools made revising their writing easier, ultimately supporting their revision efforts.

Impact of Digital Tools

Digital tools were utilized throughout instruction to examine their impact on various aspects of writing such as accuracy and the revision process. These tools were explored to determine how they helped students identify errors in their writing and supported them in correcting these mistakes. Through these tools and instruction, students demonstrated the following patterns: use of tool features and digital written feedback. The impact of digital tools in the revision process of students' personal narratives was evident across multiple data sources.

Use of Tool Features

Students began to demonstrate increased active engagement in writing revisions early in the study through their use of digital tools, which was supported by their interactions with grammar and spell-check features. Thirteen out of the fifteen participants achieved scores in the "Proficient" or "Exemplary" range of engagement with digital tools on the scoring rubric, demonstrating an understanding of digital tools use and actively using them to correct errors in their writing. Additionally, observational data indicated that all students were successful in using the tools, but seven students were noted as requiring additional explanation or assistance in how to apply them into their writing. All fifteen students received rubric scores of "Proficient" or "Exemplary" accuracy in their revisions in the grammar and spelling categories. Observations

revealed that nine out of fifteen students achieved proficiency in revision quality, making meaningful improvements to their writing despite some remaining errors. While some students eagerly embraced the digital tools, others showed a tendency to rely on the visual cues (red/blue underlines) without fully addressing all issues, as one student remarked, “My writing is done!” (Student #2, 11/1/2024) despite unresolved errors. Notably, three out of fifteen students demonstrated critical thinking by identifying and ignoring incorrect grammar suggestions, reflecting a growing understanding of the tool’s limitations.

Digital Written Feedback

Despite active engagement, students encountered significant challenges in understanding and applying digital written feedback to their writing revisions. Despite digital comments highlighting specific sections of text, students struggled to implement the suggested changes effectively. Observations revealed confusion, with students frequently asking clarifying questions such as, “What am I supposed to do here?” (Student #14, 10/30/2024) and “Why is it highlighting this part?” (Student #10, 10/30/2024). All fifteen participants scored in the “Beginning” or “Developing” range on the rubric for collaboration with digital platforms. This suggests that while students used the tools, they presented difficulty in interpreting and applying feedback independently. While students consistently relied on verbal guidance from the teacher, only three were able to translate written digital comments into actionable revisions. Furthermore, when asked whether highlighted lines made it harder to revise their writing, all students responded affirmatively.

Impact on Writing Behavior and Performance

As a result of the revision instruction with digital tools, the writing behavior and performance of students was impacted. Writing behavior in this study is defined as the actions

and choices students making during revision process when using digital tools. Student's writing on their post instruction sample was quantitatively better than it was before instruction. Post instruction writing samples highlighted trends in the usage, time spent, and application of feedback suggestions for each of the digital tools used in this study. The writing samples were studied using the *Digital Tools Checklist* (Appendix) that included the following: online dictionary and thesaurus, revising based on digital feedback, use of track changes, responding or inserting digital comments, use of voice typing, and use of spell and grammar check. Each frequency measure was scored on a scale of 0-4, with Table 3 displaying each digital tool's score. As indicated in the table, most frequently used tools included track changes, voice typing, and spell and grammar check, each receiving a mean frequency score of a 3 or higher. The tools used least frequently were responding to or inserting digital comments and using online dictionaries or thesauruses, each with a frequency score between 0 and 1. These findings show students' writing behaviors during the revision process were impacted by the digital tools implemented in the study.

The table also displays data on the amount of time spent using each tool. Track changes, grammar, and spell check were the tools students used the most, averaging 11–15 minutes per day. This suggests that students dedicated substantial time to tools focused on revising and error correction. Additionally, the data on the number of feedback suggestions applied shows that these tools resulted in a high volume of corrections to their writing. The use of spell check received a mean score of 9, while the use of grammar check received a higher mean score of 20 in regards to the number of feedback suggestions applied. Similarly, track changes showed a mean score of approximately 17 for applied feedback suggestions. On the other hand, similar to their frequency score, students spent the least amount of time responding to or inserting

comments and using the online dictionary and thesaurus. In addition, the number of feedback suggestions applied for these tools was also low, receiving scores between 0 and 2. Revising based on digital feedback followed this trend, receiving a similarly low number of feedback suggestions applied. Tools such as voice typing resulted in use of high frequency and time spent, but only recorded a mean score of 4 in the amount of suggestions applied to writing.

Table 2

Summary of Mean Values for Digital Tools: Frequency, Time Spent, and Feedback Suggestions Applied

Digital Tool	Frequency	Time Spent	Feedback Suggestions Applied
Use of Online Dictionary	1.67	3	1.67
Use of Online Thesaurus	1.33	2.33	2.33
Revising Based on Digital Feedback	1.33	9.33	3.67
Use of Track Changes or Revision History	3.33	15	17.67
Responding to Comments from Teacher	0	0	0
Inserting Comments for Teacher	0	0	0
Use of Voice Typing	3	11.67	4.33
Use of Grammar Check	3	11.67	20
Use of Spell Check	3.00	11.67	9.33

Table 4 shows students' scores on each measure of the rubric based on the revisions made in their post instruction writing samples. Students' writing was scored using the rubric designed for this study titled *Personal Narrative Rubric for Assessing Effect of Digital Tools on Revision* (Appendix). The rubric evaluated four measures, including engagement and collaboration with digital tools, as well as the accuracy and quality of students' revisions. Each measure was scored on a scale of 0 to 4, with 1 indicating 'beginning' and 4 indicating

'exemplary'. The majority of students demonstrated proficient engagement (73%) with digital tools, and an additional 13% reached exemplary levels. Only 13% of students were categorized as developing, and no students were at the beginning level. Students' accuracy of revisions in their post instruction samples had 73% receive exemplary accuracy, while 20% were proficient, indicating students were able to identify and correct errors effectively using the digital tools. A challenge that was observed through observations and the data presented in this rubric, was in the collaboration with digital platforms section. A notable 53% of students were at the beginning level, indicating substantial difficulty in leveraging digital tools for collaboration. No students were classified as exemplary, and only 20% were proficient. In assessing the quality of final revisions, most students (60%) reached the proficient level, with 30% achieving exemplary revisions, reflecting strong final outcomes. There were few developing scores with only 6% of students in the developing category, and none at the beginning level. Collaboration with digital tools was the least impacted measure, with minimal performance levels.

Table 3

Student Engagement and Performance with Digital Tools Scores

Category	Beginning (%)	Developing (%)	Proficient (%)	Exemplary (%)
Engagement with Digital Tools	0%	13%	73%	13%
Accuracy of Revisions	0%	0.06%	20%	73%
Collaboration with Digital Platforms	53%	26%	20%	0%
Quality of Final Revisions	0%	6%	60%	30%

Summary

The findings in this chapter reveal patterns related to the use of digital tools and their impact on students' motivation to write and the revisions they made. The use of these tools and the instructional approach influenced students' motivation, writing revisions, and overall writing behavior and performance. Students showed a strong preference for using digital tools during the writing process, as they believed these tools helped improve their work. The study also identified that certain tools were used more frequently than others and made it easier for students to correct their writing. Moreover, students became more capable of independently revising their writing, particularly to enhance the clarity of their personal narratives. Overall, the intervention led to improvements in students' published writing and increased their familiarity with the digital tools they used throughout the study.

Chapter V

Conclusions, Discussions and Recommendations

Introduction

The purpose of this study was to determine how implementing digital tools during the revision process of writing impacts my students' motivation to write and improve students ability to make revisions to their writing. From the data analysis, it is concluded that: (1) Digital tools enhance students' writing skills and increase their motivation to write. (2) Explicit instruction affects students' ability to use digital tools for independent revision. (3) Digital tools improved students' writing quality and revision accuracy. There is evidence in this current study along with other relevant studies that support these three conclusions.

Conclusion I

Digital tools provided to students during the writing process enhance their writing skills and increase their motivation to write.

Discussion

The data analysis of the six-day study clearly demonstrated how the use of digital tools during the writing revision process directly influenced student motivation, fostering a greater willingness to engage in and enjoy the process. Student motivation was expressed in several different ways. The majority of students in the study expressed their enjoyment when using the tools and how seamless it was to make revisions to their writing. Students' enjoyment and willingness to revise stemmed from the confidence they gained in addressing specific writing challenges, such as spelling and mechanics, through the use of digital tools. By reducing barriers like mechanical errors, digital tools not only enabled students to focus on the content but also

helped them grow their ability to identify errors in their writing. Students' ability to revise their writing independently highlights their growing mastery of writing and editing skills. The digital tools used in this study not only enhanced students' motivation and confidence but also contributed to the development of essential writing and revision skills.

Martin and Bell's (2024) study underscores the important connection between confidence in specific writing skills and students' motivation to engage in the revision process. Their findings highlight that fostering confidence is key, as students must be motivated in a variety of ways to fully participate in writing. For instance, if a student feels uncertain or lacks self-efficacy in a skill like spelling, they are significantly less likely to attempt meaningful revisions in that area. By introducing digital tools, this barrier was reduced, providing both relief and a sense of empowerment. These tools helped alleviate frustration, allowing students to focus more on the expression of their ideas rather than being hindered by mechanical errors. This newfound enthusiasm not only enhanced their overall writing experience but likely inspired students to independently explore and apply the tools, further reinforcing their skills and confidence in the revision process.

Another study conducted by Mehmet (2023) examined the impact of digital activities on enhancing students' vocabulary acquisition. The findings revealed that active participation played a crucial role in fostering vocabulary development, as evidenced by significant improvements in students' post-test results. It is important to note that while Mehmet's (2023) study focused on vocabulary and the present study focused on the revision process of writing, there are some connections in the findings of each study. Both studies focus on incorporating digital activities into instruction to determine the effect that they have on enhancing student learning. In the present study, the digital tools not only engaged students in the learning process but also

encouraged them to identify errors in their writing and make appropriate corrections with the assistance of the tools. This interactive approach empowered students to take ownership of their learning, reinforcing their understanding of spelling, grammar, or sentence structure errors through practical application and immediate feedback. These results highlight the value of incorporating digital tools into educational practices to support skill development and motivate active student engagement.

The findings from the present study are aligned with Deci and Ryan's (1985) Self-Determination Theory (SDT). This theory emphasizes the importance of intrinsic motivation, which occurs when individuals engage in activities for their inherent satisfaction rather than external rewards. A key part of SDT is the fulfillment of three psychological needs: autonomy, competence, and relatedness. In the context of this study, digital tools supported students' autonomy by allowing them to take ownership of their writing process, empowering them to make revisions independently. These tools also fostered competence by helping students overcome specific challenges, such as spelling and mechanics, enabling them to focus on content and improve their skills. The digital tools in this study enhanced students' motivation, engagement, and overall confidence in their writing abilities, leading to meaningful improvements in their writing and revision processes.

Conclusion II

Explicit instruction provided to students during instruction affects students' ability to utilize the digital tools for independent revision.

Discussion

The data from the six-day study on the use of digital tools for writing revisions revealed that explicit instruction played a crucial role in determining which tools students could use

independently. There were a multitude of digital tools that were introduced to students in mini lessons during the study. The study showed that some digital tools were successfully applied by students independently to their own writing after receiving explicit instruction on how to use them. Examples of tools taught during lessons that they were able to apply independently included: grammar and spell check, voice typing, and track changes. However, other tools proved more challenging, as students were unable to apply them independently and required ongoing teacher support. Examples of tools introduced during instruction that required teacher scaffolding for independent use included digital feedback tools. These tools involved inserting and responding to comments and making revisions based on the feedback provided. All students scored low in their collaboration with digital platforms, reflecting a gap in their ability to independently interpret and act on feedback. While some digital tools were used independently and others required teacher assistance, the study confirms that a more detailed explanation is necessary in order for students to fully understand the features and functions of digital comments.

Aktas and Akyol (2020) assert that explicit instruction on how to use digital applications effectively is essential for setting students up for success. Their findings align with the conclusions of this study, as students in the six-day study received direct instruction on how to integrate these tools into their writing processes. This explicit instruction directly influenced students' ability to engage with the tools, both independently and with support, highlighting the importance of teacher guidance and scaffolding in helping students build confidence and competence with digital tools. Furthermore, their research supports the idea that structured teaching practices can address gaps in students' ability to interpret and apply feedback. These

findings emphasize that equipping students with both the skills and strategies to use digital tools fosters a greater engagement in the revision process.

The findings from the present study are aligned with The New London Group's (1996) concept of Multiliteracies. This framework expands upon traditional definitions of literacy to include the ability to navigate, interpret, and create meaning across multiple modes of communication, such as digital texts and multimedia. Multiliteracies emphasizes that teachers must incorporate digital literacy into instruction to prepare students to understand and utilize diverse types of texts and media effectively. Similarly, Pullen and Cole (2010) highlight the concept of "transformed practice," which emphasizes the importance of teachers adapting their methods to integrate technology and socio-cultural contexts into their instructional practices. This aligns with the study's findings, which demonstrate that explicit instruction enabled students to interact successfully with certain digital tools independently while others required teacher scaffolding. By explicitly teaching students how to use these tools, teachers create opportunities for students to experiment with meaning-making in technology-rich, multiliteracy environments, thus fostering students' adaptability and motivation.

Conclusion III

Digital tools noticeably improved students' writing quality and revision accuracy.

Discussion

The data analysis revealed that students effectively used digital tools to revise and edit their personal narrative writing. All students demonstrated improvement from their pre-instruction writing samples by applying the tools to make meaningful revisions in their post-instruction samples. During independent practice, students frequently used tools such as *track changes* and *spell and grammar check* to make impactful changes to their writing. Their frequent

and effective use of these tools resulted in high rubric scores for the quality of final revisions and the number of feedback suggestions applied. This indicates that the tools played a crucial role in helping students identify and correct errors. The rubric scores further emphasized students' ability to apply feedback and make precise corrections using digital tools. Overall, these findings show that digital tools provided structured support during the revision process, enabling students to produce more accurate and higher-quality writing.

Lee and Bernstein's (2022) study also highlights the positive impact of digital tools on the revision process, though their focus was on online collaborative revision using the digital platform Storybird. While the present study emphasizes the use of digital tools like grammar and spell check for independent revisions, Lee and Bernstein's research on digital platforms such as Storybird and peer feedback relates to how digital tools can enhance student revisions through specific, targeted feedback. Both studies demonstrate that digital tools not only aid in making precise revisions, but also enhance the overall quality of writing by fostering a structured feedback process.

The findings from the present study are aligned with Deci and Ryan's (1985) Self-Determination Theory. This theory focuses on the importance of competence, feeling capable, and autonomy, having a sense of control over one's choices. The present study found that students demonstrated exemplary accuracy in revisions and high rubric scores for the quality of their final writing, reflecting a growing sense of competence. Students utilized the digital tools to identify and correct errors effectively, enhancing their belief in their abilities to succeed in writing tasks. Following instruction, students used the tools independently during revision, exercising control over their work.. The structured support provided by these tools enabled students to make informed decisions about how to revise their work, fostering a sense of

ownership. As a result, their post instruction writing samples featured high quality, accurate revisions.

Recommendations for Further Research

Based on the findings of this study, further research is recommended to examine the impact of digital tools on students' motivation to write and make revisions to their writing. While the present study focused solely on the revision process, future research should investigate how digital tools influence the drafting process as well. This would provide a more comprehensive understanding of the tools' effectiveness across different stages of the writing process.

Additionally, further research should be conducted with the ability to make a comparison between student drafts revised with digital tools and without digital tools. While the present study focused on using digital tools to support and enhance students' writing, it did not examine how students' writing might have developed without these tools. Implementing control and experimental groups would allow for the creation of a baseline of data or controlled writing samples. This approach would provide a clearer understanding of how digital tools influence students' writing motivation and quality.

Finally, further research should investigate impacts of the intervention in a longer term study with a larger group of participants of varying abilities. The present study was conducted over just six days with only fifteen students, who are all general education students. It would be beneficial to determine the effects that the use of these tools have over a longer time period and determine whether the findings of the study can be replicated with students who have learning disabilities or students in upper elementary grades or secondary classrooms.

Recommendations for Teachers

Based on the findings of this study, several recommendations can be made for teachers to improve upon their practices for writing instruction. Teachers should provide clear, step-by-step instruction on how to use digital tools for writing revisions. Additionally, allow ample time for students to explore the tools and their features on their own. Teachers should ensure that students understand how to move from visual cues, that draw attention to areas of a student's writing that needs attention, to be able to make meaningful revisions by providing examples and modeling their use. Teachers can facilitate discussions that create opportunities for students to reflect on and discuss the features of the tools and how to effectively apply them into their writing.

Teachers should also utilize digital tools throughout the writing process to help support their students. Some of the tool features, such as spell check and voice typing, can be used to assist students in spelling and can be used to provide targeted support to these students. If students are struggling to apply the digital tools effectively, teachers can provide scaffolding through the use of additional guided practice or small-group instruction on how to use each of the tools. Additionally, some students relied on visual cues without fully revising their work. Teachers can incorporate discussions on the purpose of these cues and encourage students to go beyond simply correcting what is visually highlighted.

Last, teachers should provide explicit instruction on how to analyze feedback in order to translate digital written feedback into actionable revisions. This will help students to recognize patterns in feedback and connect these to the writing process. It is also recommended that digital feedback be balanced with verbal guidance, supporting students to independently apply changes while also offering guidance when necessary. Feedback should point out clear, actionable changes such as suggesting the correction of specific grammar errors or offering sentence

structure suggestions. Teachers should use verbal guidance to supplement digital feedback to allow students to ask questions and receive clarification in real time.

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Appendix




Digital Tools Checklist

Category	Item	Frequency (0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Always)	Time spent (in minutes per session)	Other Quantitative Methods
Word Processing Tools	Use of spell-check	0 ▾	- minutes/session	- spelling errors corrected
	Use of grammar-check	0 ▾	- minutes/session	- grammar suggestions applied
	Use of voice typing	0 ▾	- minutes / session	- spelling errors corrected
Collaboration Tools	Inserting comments for peers or teacher	0 ▾	- minutes/session	- comments added
	Responding to comments from peers/teacher	0 ▾	- minutes/session	- comments responded to
Revision Tools	Using "Track Changes" or revision history	0 ▾	- minutes/session	- revisions made
Feedback Integration	Revising based on digital feedback	0 ▾	- minutes/session	- of revisions made based on feedback
Writing Platforms	Use of online thesaurus	0 ▾	- minutes/session	- of feedback suggestions applied
	Use of online dictionary	0 ▾	- minutes/session	- of feedback suggestions applied

Personal Narrative Rubric for Assessing Effect of Digital Tools on Revision

Criteria	Exemplary (4)	Proficient (3)	Developing (2)	Beginning (1)
Engagement with Digital Tools	Actively and consistently uses digital tools (ex. Spelling check, grammar check, collaborative feedback) to improve their writing. Shows initiative in exploring additional features of digital tools.	Uses digital tools regularly to revise writing, but may not explore beyond basic functions. Follows teacher directions well.	Limited use of digital tools in revision, mostly relying on teacher or peers for guidance. May use only basic features.	Little to no use of digital tools, minimal revision attempted. Often requires one-on-one guidance to engage with digital platforms.
Accuracy of Revisions	Revisions made using digital tools significantly improve the clarity, structure, and grammar of the writing. Almost all errors are corrected.	Revisions improve some aspects of the writing such as grammar or spelling, but may not address more complex issues like structure or clarity.	Only minor revisions are made, often missing key areas for improvement such as grammar, sentence structure, or clarity.	No noticeable improvement in writing; little to no revision done, even with digital tools.
Collaboration with Digital Platforms	Frequently collaborates with teacher using digital tools (ex. Google Docs feedback tools) to revise writing, actively incorporates feedback.	Collaborates with teacher occasionally, but may not fully engage in integrating feedback into the revision.	Limited collaboration with teacher feedback, which is often ignored or superficially incorporated into writing.	No collaboration with teacher feedback. Struggles to use digital platforms for feedback.
Quality of Final Revisions	Final revisions significantly enhance the original text, improving both content and mechanics. Writing is clear, more coherent, and free of errors.	Final revisions improve some areas of writing, but may still contain a few errors in grammar or structure.	Final revision only partially improves the writing. Some major issues remain unaddressed.	Final revisions show little to no improvement, and the writing still contains significant errors or lack of clarity.

Student Self-Reflection

Question	Choose One
1. How enjoyable do you find using digital tools during the writing revision process?	
2. How confident do you feel about your writing after using digital tools?	
3. Do you feel that using digital tools makes revising your writing easier?	
4. Which face best describes how you feel when using digital tools to revise your writing?	