Implementing Technology in Upper Elementary English Language Arts

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Abstract: In the education field, we have experienced a shift in how we utilize technology to teach English language arts (ELA) concepts. Technological literacies can easily integrate into curriculum when using the Ohio ELA and Technology Standards to determine the most important objectives and implementation strategies. When educators understand the use and efficacy of technology in ELA instruction and research, they are able to implement new media into reading, writing, and when speaking and listening. Students will be able to naturally learn how to use technology in everyday work. Integrating ELA and technological concepts helps students understand how these medias and modalities can work together. When we implement technology into the umbrellas of ELA, we set students up for success as adults in the 21st century digital world.

Introduction

When we consider the changes that have taken place in our educational approaches to technology, overall, we see an inability in students to effectively demonstrate literacy skills with the use of technology (Huang et al., 2019). In recent years, the field of English language arts has experienced immense technological growth. Alsup et al. (2006) describes this growth by defining literacy in today's world, "To become fully literate requires writing and reading in the six intertwined worlds that we now inhabit: the personal, the cultural, the educational and professional, the economic, the civic, and the cyber" (p .282). Consider the original skills expected of a typical upper elementary student: reading from a physical book, speaking with a peer, face-to-face, or handwriting a letter or academic paper. These skills all focus on concrete and straight forward practices. How does the format of our lessons need to change in order to successfully implement technological practices that would meet the needs of the cyber world?

Immersing technology in upper elementary language arts classrooms prepare students to succeed in the 21st century digital world. Implementing these technological skills in upper elementary grades is crucial to student growth and success in future learning and adulthood. These formative years lay the foundation that students will carry with them throughout their lifelong learning journey. Standard six of the NCTE's International Reading Association states, "Students apply knowledge of language structure, language conventions, media techniques, figurative language, and genre to create, critique, and discuss print and nonprint texts" (1996, p. 26). It is important to integrate ELA and technological concepts in order to help students understand how these medias and modalities can work together. This idea has become globally accepted as our world shifts to a digital format.

In a Classroom

Mr. Smith is a 4th grade teacher that has 20 students in his class. Each student has access to their own Chromebook for daily use. Mr. Smith struggles to identify which technological skills are important for his students to know, as well as how to tie Chromebook work into his ELA lessons. His students seem to only be interested in playing games on these devices during free time and lack in the areas of typing skills, researching, and relaying information. He fears that he is not preparing his 4th graders for the technological knowledge that they will need in junior high. He begins researching ways to implement technology use within the three core areas of ELA: reading, writing, and speaking/listening.

It is important to note that Mr. Smith does possess a moderate level of technological knowledge. He is aware of what programs are available in his school district and understands the fundamentals of how they operate. An educator that does not hold this knowledge might consider the work of Wang (2018). This work offers a detailed explanation of self-directed learning in adulthood. As technology advances, computer-based applications allow us to "...create, publish, modify, organize, and maintain information" (Wang, 2018, p. 30). For educators to be successful in the 21st century work and school environment, we must motivate them to participate in self-directed technological learning in order to advance their skills. It is also common for school districts to offer their staff professional development opportunities as new technology continues to be adapted.

Technological Skills

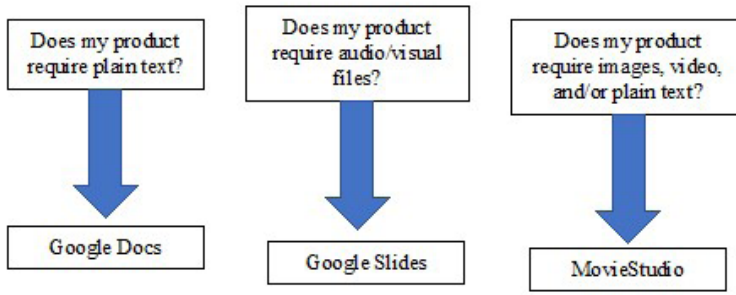
Wilhelm (2004) wrote about his ideas on the crucial need for all citizens to have technological literacy. He develops his theories around the term Digital Nation, which is the idea that our society relies on digital tools to live. Wilhelm constructs this viewpoint of the Digital Nation as one that needs civic engagement and requires society to be the shapers of the environment. Through the use of technology, he compares his theories to that of Darwinism and survival of the fittest. In other words, if we do not teach literacy skills, our civilization will eventually stop prospering and ultimately end in our demise (p. 18).

Wilhelm (2004) brings up a national discussion taking place that aims to determine what skills are considered necessary for today's youth. He states, "…low-skilled young people and adults cost society immensely over these cohort's lifetimes, jeopardizing the nation's economic and political stability" (p. 18). In another study, Casner-Lotto and Barrington (2010) conducted a survey with U.S. employers that suggests that the current generation of high school graduates are not proficient in the 21st century technological skills that are needed in today's society to hold a professional career. These skills include basic computer use, knowledge on digital communication, and ability to convey ideas with various media tools.

Wilhelm (2004) divides technological skills into three core ideas. These three core ideas include: 1) proficiency with using today's tools, 2) understanding the purpose of each tool, and 3) knowing what and what not to do with each option (p. 22). In other words, students should have a familiarity with the tools available to them, they should know the capabilities of each tool, and they should know when

and when not to utilize each. The basic tools that help provide foundational digital knowledge in the upper elementary classroom can be found in Figure 1. Having students ask these questions and utilize these tools will teach these three skills and prepare students for successful technology use in the ELA domain. By providing these foundational skills, students will be able to complete tasks using more complex technological mediums as they grow in their learning. We want our students to excel in technological skills as it pertains to ELA because it will ensure their ability to communicate, participate, and demonstrate overall success as adults in a professional and cyber world.

Figure 1
Questions to Ask Yourself When Determining Which Tool to Use



Implementation

Mr. Smith begins his research by finding ways to implement his knowledge of technology use within the three core areas of ELA: reading, writing, and speaking/listening. When examining the areas of ELA that the Ohio Department of Education (ODE) focuses on, we see importance given to reading, writing, and speaking/listening (2017). In addition to the core academic domains, the Ohio Department of Education also has standards for technology use by grade band (2017). A teacher should review both the ELA content standards and the technology standards while preparing instruction. The content standards provide the necessary information and skills to be mastered while the technology standards provide a framework for how acquisition of the content might occur with use of technology.

In Reading

After examining the standards, Mr. Smith decides to focus on standards A and E. He gives students a book talk on both Wonder (Palacio, 2012) and Tales of a Fourth Grade Nothing (Blume, 1972). He then allows students to choose which book they want to read. Next, Mr. Smith introduces three Chrome book programs: Google Slides, Google Docs, and MovieStudio. Students practice using these and choose which one they would like to use to share a synopsis of each chapter read, or to answer guided questions given by Mr. Smith. Students can make a slide show of

information, type a paragraph, or record video/audio material describing what they have read.

This activity would allow Mr. Smith to not only assess comprehension, but also to provide his students with the choice and opportunity to incorporate technology into their learning. Offering this technological component and giving students control over how they communicate their knowledge will heighten student interest, engagement, and participation (Abrams et al., 2019). Students will gain experience in using technological modalities to communicate their knowledge and could potentially collaborate with peers based on the teacher's goals and lesson objectives.

In Writing

When looking at the standards to be addressed in his lesson, Mr. Smith determines that he wants his students to both conduct research with informative writing (ELA), as well as describe a process with a result (technology). For this example, he can achieve both standards by providing students with options for study. Students could choose from researching how a claw machine (game) or vending machine operate. Students would need to research how these machines operate and complete a function. How does the machine go from accepting a coin to moving to the desired or chosen object? What are the working parts inside that trigger the next movement?

After completing this research, students would then need to write an informational piece, or create an infographic on the process that the machine and coin go through in order to complete the task. Not only would students gain an understanding of the design of the technology, they would also gain experience with informational writing skills through sharing what they have learned. The research that they collect, along with the conceptual understandings that they develop about the workings of the machine, would help them apply findings to other types of technology. This type of comparison or expansion could be offered as an extension or enrichment activity. For example, when we put bread in a toaster, toast does not just magically appear. There are inner workings within the device that cause it to get hot and toast the bread. This new way of comprehension and thinking would help students gain a deeper understanding of technology and the importance of its design.

In Speaking and Listening

The third and final umbrella of ELA includes the skills needed for speaking and listening. Similar to the writing portion, Mr. Smith would need to revisit the standards to determine what he wants students to do and accomplish through the lesson activities. There are many ways to incorporate speaking/listening and information/communication technology. He finds that the most engaging and interesting method for students is through the use of virtual field trips. For this lesson he chooses to use Cedar Point, a local amusement park that is very popular among his students. To create a virtual field trip, he must first create a document or series of slides with appropriate and helpful links, videos, and/or media stories about the destination. To go along with these resources, he also must provide guiding questions to steer student learning and communicate what he wants the students to locate and learn.

When the preparation portion is complete, students would then be able to 'go on' the virtual trip.

Working independently or with a peer, students would navigate the media resources to find answers to the given questions or topics. Students would answer the guiding questions and gain experience navigating digital tools and media to find specific material. Students meet the standard in speaking and listening through their work with the diverse media formats and through their interactions with their peers if they are working in pairs. They also examine the information that is presented visually on the park's interactive maps. This activity would provide students with the opportunity to not only learn about their destination, but also how to navigate digital information to convey a needed answer or response.

After Implementation

After implementing these activities and strategies, Mr. Smith is beginning to feel more confident in his ability to foster technological skills into his ELA lessons. He is able to identify what skills are important and sees his students gaining confidence in their digital abilities. They have begun typing faster, they are able to effectively use the internet and digital resources to locate or follow along with research, and they are knowledgeable about multiple digital modalities that can be used to convey their ideas. Mr. Smith has witnessed students learning in new formats and exploring technological resources. By implementing a variety of technological activities into his ELA curriculum, he feels that he is laying the foundation for his students to be participating members of the 21st century world.

Conclusion

Students need to possess a technological skill set in order to successfully participate and learn in today's digital world. Knowing what tools (Figure 1) are available is the first step for both students and educators in their journey to understanding and utilizing technology. After resources are known, time can then be spent learning how to use each tool in various modalities. Knowing how to use each resource determines the extent to which we are able to successfully utilize them. Once students know the tools, and how to use them, they must then learn how to distinguish when and when not to implement them in their work. In other words, students must know when it is best to use one modality or resource over another. Educators must dive into these concepts themselves in order to provide them to their students.

Not only do educators need to have their own technological skill set, they must also follow their state and school guidelines and standards. Through research and reviewing the work of Puerling (2018), it can be stated that in order for students to understand how technology works in our society, we must combine our teachings of it with core academic domains. Teaching the concepts side by side offers students the understanding that technology is applicable in an infinite number of ways. Parr and Campbell (2012) state, "As navigators of literacy, students and teachers can smoothly blend theory and practice…" (p. 26). Offering students the opportunity to practice skills and explore technology and its' abilities through classroom academics

will help provide the foundation required for students to grow into successful and participating members of the 21st century digital world.

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Ashlee Melissa Himes earned her B.A. in Early Childhood Education and M.Ed. in Curriculum and Instruction from the University of Toledo. She currently teaches kindergarten for Sylvania Schools. She has a passion for the elementary age student and researching ways to implement technology into daily classroom lessons.