

The Proper Implementation of Technology into the English Language Arts Classroom

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Abstract: Prior to 2020, technology was slowly being integrated into the classroom. Technology integration is expensive and because of this, schools with more funding were making the leap at more rapid rates than schools with less funding. In 2020, the Covid-19 pandemic hit and there was a heavy push for schools across the country to get laptops into the hands of every student. This pandemic gave students who previously did not have access to internet the opportunity to learn in a 1:1 laptop setting. With laptops in the hands of every student, kids are spending more time than ever before in front of screens. Now that every student has access to the technology, educators need to explore the dangers associated with its overuse and establish boundaries to create the most optimal learning environment.

Introduction

During the pandemic, Harriet's school was able to make the final push towards technology that they had been planning for years. Harriet lives in a low-income household and would not have been able to have a laptop had her district not provided them. The pandemic is now over, and Harriet is happy to be back in classes, but she feels it is different now.

Harriet goes to school for 7 hours per day. Freshman English is her first class of the day. English used to be her favorite class, but she has been falling behind this year. Before the pandemic, students were given physical copies of each book to write in. Now she is given digital copies and has a hard time focusing when reading on her laptop. She used to take sticky notes in the books she read to help her remember what happened. When she gets behind in reading now, she just reads the Spark Notes instead of the novel.

One of her favorite things about English was doing writing prompts at the beginning of each class. She loved writing in her class journal and doodling during the lessons. Her teacher this year has the class write on a Google Doc at the beginning of class and although she likes practicing her typing, she feels self-conscious because she knows her teacher can see what she is writing while she is writing it.

Something that makes her frustrated is that every class is planned around using her laptop. She spends a lot of time at school on her laptop and then goes home and does homework on it. Before Covid-19, when the class read a book, she would get excited to discuss it with peers. Now they create Google Jam Boards and Power Points about what they read. She liked this at first but now feels drained by all the online work.

With Great Technology Comes Great Responsibility

Benefits of the One-to-One Laptop Implementation

High schools all over America have implemented a one-to-one laptop program to get laptops into the hands of every student. There is no doubt of the numerous benefits that can be observed with the implementation of a one-to-one program. In the English language arts classroom, students can access reading materials wherever they are if they have internet connection. They can type their papers and use the laptop to take notes and find resources. They can also access audiobooks and make the font size bigger if need be. Technology is beneficial to student learning empowerment as it creates a space where students are free to interact away from teachers. The effect this has is that students are more willing to engage with one-another and relate without the fear of being observed. This gives them control over what they are learning by providing a sense of independence. Additionally, technology offers new routes for differentiation in learning with flexible designs of content delivery and assessment of skills (Hanimoglu, 2018, p. 98). In the traditional classroom model, teachers were in control of the learning and there was limited opportunity for self-discovery. With the introduction of technology, students are offered more independence and can work through the learning process on their own. This leads to more student learning innovation (Hanimoglu, 2018, p. 101). The purpose of the one-to-one laptop initiative is to “transform student learning, enhance future job prospects, offer equity opportunities, and improve student academic achievement” (Gatens, 2018, p. 2). Although technology poses all of these benefits in student learning outcomes, there are also many unintended drawbacks that need to be explored further.

Student Learning Outcomes with One-to-One Implementation

Even though a one-to-one laptop initiative increases student learning empowerment and differentiation, it does not coincide with higher test scores or competency. In the English language arts (ELA) classroom, long-form writing is a skill that needs to be mastered. With the integration of laptops, the use of handwriting has gone down significantly. In a study, Professor of Experimental Psychology, Caroline Edmonds, and graduate of psychology, Dr. Simon Horbury (2020), compared 26 ten and eleven-year-old boys on how well they retained information after they hand wrote and typed their notes from a lesson. This study examined the control groups directly after the study and a week later. The study was aimed at analyzing their comprehension of conceptual understanding rather than factual recall. This is important because conceptual understanding requires deeper processing of abstract ideas from students. In this study, they assessed the students in history and biology in the form of a multiple-choice quiz. Upon completion of this study, Edmonds and Horbury (2020) found that there was no difference in conceptual understanding directly after the lesson between students who hand wrote and typed their notes. It did find, however, that a week after the study students who hand wrote their notes retained more information and had a deeper level of understanding of concepts than those who typed. They believe these results were reached because handwriting notes takes

more time and requires students to process the information differently in order to take more effective notes. In shortening the information and consolidating, they are engaging in higher levels of cognition in their interaction with the information (The Guardian, 2014). This is important to the ELA classroom as a great deal of skills learned involve deeper level processing and thinking. If students are using laptops to do research, take notes, and write papers, it is likely that lower levels of cognition are taking place than if they were handwriting everything. As a solution to this, ELA teachers need to utilize handwriting rather than typing notes as often as they can.

In another study (Gatens, 2018) completed in a New Jersey high school, researchers found that one-to-one laptop initiatives had no impact on student success in standardized tests in the English language arts section. Of the many controls used including age, gender, socioeconomic status, race, etc., there was no difference between those who learned with the one-to-one laptop initiative and those who did not. However, in the math section of the New Jersey Assessment of Skills and Knowledge (NJASK) standardized test, there was a negative correlation between students who had access to laptops and their test scores. Students who used laptops had lower scores when compared to those who did not (Gatens, 2018, p. 85). When studying the impact of one-to-one implementation on the PSAT, researchers found that there was no difference in performance and scores between students who did have laptops and students that did not (Gatens, 2018, p. 88). This is to say that laptops do not necessarily correlate with greater student learning outcomes. In the same study, they collected data on whether or not the laptop initiative impacted grade point average and found that it had a negative impact on student academic performance in terms of grade point average (GPA). Students who used laptops had lower GPAs than students who did not. Additionally, one-to-one laptop initiatives had no impact on students' attendance (Gatens, 2018, p. 88). With these outcomes in mind, it is important to consider the goal of a one-to-one implementation program and why the implementation is not leading to greater student success rates. With this information, ELA teachers need to structure lessons around student interaction and use technology strictly as a tool when it is necessary.

Challenges in the Online Model

Just as cars are a tool that make travel easier and more rapid, technology is the same in education. Ironically, if one is not properly trained to use it, it can have adverse effects. In the ELA classroom, discussion and debate are some of the most important skills a student can develop. Teachers facilitate class discussion and create an environment for sense-making to take place among peers. In a literature review, Borup (2016) compiled surveys that explored the teachers' perceptions of learner-learner engagement at cyber high schools. One survey discovered that of the 127 cyber school principals who participated, 21% of those felt their courses offered collaborative learning that involved two or more students. Additionally, 60% reported that their schools primarily used "individualized, student-driven independent study" (Borup, 2016, p. 232). This is worrisome as students learn best when making sense of content with peers. When reading a book, it is the combination of multiple perspectives that can lead to sense-making and self-discovery. The individualized approach can be a good thing, but it can also hinder the learning process and provide

lower quality education. “Interaction between similarly able peers can also result in learning environments where meaning is constructed and shared. Social presence and personal connections that are established through meaningful interactions can also be a prerequisite to more cognitive outcomes” (Borup, 2016, p. 232). In this way, when students engage in learner-learner interactions, their creativity and other important skills are fostered while students who learn online are likely to experience feelings of isolation and lack of motivation to learn (Borup, 2016). With the integration of laptops, students often look at screens rather than each other. This is not the fault of the technology, but rather, the person facilitating the learning. Moving forward, ELA teachers need to have student-interaction at the center of each lesson plan.

Another problem faced in many districts is a lack of competency in instructors to teach with this tool. Many ELA instructors are sticking to the traditional model and using technology as a tool because they are not taught about how to effectively integrate technology in the ELA classroom (McGrail, 2007, p. 80). In this way, teachers are struggling to create meaningful interactions and collaboration using technology in their classrooms. They have effectively mastered the traditional model of fostering collaboration between students in their learning process, but they struggle when introducing technology due to lack of training and the one-to-one model. Additionally, technology makes cheating and online distractions more common, and teachers are not properly trained in how to deal with this problem. Drawbacks observed in the integration of technology include “technology-supported cheating, communications-related distractions, computer games, web-surfing, and other personal projects.” (Nworie & Haughton, 2008, p. 54). Distractions are one of the unintended results of having technology in the classroom. With their laptops, students have been observed instant messaging friends, communicating with email, shopping online, playing computer games etc. This problem is difficult to solve as many students can override website blocks with virtual private networks (VPNs). Additionally, teachers cannot observe what students are doing online while they teach (Nworie & Haughton, 2008). This can be a challenge to any classroom, but especially the ELA classroom because technology offers opportunities for students to conduct research online and type papers. Like in many things, although these problems exist and create challenges to instruction, there are solutions that are accessible to teachers to mitigate and turn technology into the tool it was meant to be.

The Problem is the Solution

As is the result in many cases, the problem is the solution. Because one-to-one laptop classrooms are new to teachers, they struggle to find meaningful ways to maximize its capacity of helping. Across the literature, many researchers had similar propositions to help integrate technology into the classroom. Similar to how people need to take drivers education and learn the dangers of driving in order to get their license, students need education to understand the benefits and drawbacks of using a screen to learn. Not only do students need this, but teachers do too. To fight these drawbacks, solutions posed in the research include adequate training in the integration of technology and the hiring of full-time technology directors to ease the transition. Manimoglu (2018) concluded that although technology does not influence at-

tendance and performance in students, it does positively impact their acquisition of skills relevant to technology (p. 104). Upon compiling and organizing the data from these studies, Gatens (2018) recommends that school leaders and teachers “increase their understanding of the impact and efficiency of introducing one-to-one laptop programs.” (Gatens, 2018, p. 94). He suggests that when weighing whether or not districts should invest in one-to-one laptop implementation, they should consider what their goals of implementation are. Technology should be viewed as a tool for the learner. There is more that can be learned in the classroom than passing standardized tests scores and getting a good GPA, so these studies need to be taken into account when observing the data (Gatens, 2018). Similarly, a solution offered by McGrail (2007) is to have teachers and administrators adopt a different mindset in terms of technology. They need to explore what the goal of one-to-one implementation is and put more emphasis on pedagogy than technology. If they explore the goals of using technology and create a plan that will foster student development using technology, classrooms and teaching would become more efficient to the student (McGrail, 2007, p. 81). Just as teachers can observe drawbacks, they have also discovered solutions on their own as well.

To aid in the fight against distraction introduced by technology, many teachers have found that deadlines are one of their greatest tools. With the online portal for assignment submission, students are more likely to complete work with a sense of urgency if there is a deadline attached to the assignment. Teachers have also found that giving students a greater sense of control promotes healthy online habits. For example, letting them listen to music as they work gives them a feeling of control and autonomy over their own learning process (Tagsold, 2013, p. 131). Additionally, technology can be a great tool in fighting distraction if teachers chunk their lessons appropriately. Students respond positively to a change of stimuli. Technology makes this more achievable as teachers are able to plan a lesson using technology when it benefits the content most. This helps break up the perceived monotony and keep students engaged (Tagsold, 2013, p. 132). Tagsold (2013) has three suggestions for minimizing distractions in the classroom. The first is to create projects that students will enjoy and allow the student to choose their own form of assessment. This will encourage learning empowerment and discipline. (p. 135). Another suggestion is to create meaningful assignments that are also challenging to students. When students are engaging in higher level thinking, they are more focused (Tagsold, 2013, p. 136). The final suggestion offered is to inform students of the benefits and drawbacks of multi-tasking. Although multi-tasking can be effective in allowing students to complete multiple assignments at once, it can also decrease their efficiency due to the demand in cognitive processing. If students are allowed to self-regulate upon being informed of the drawbacks of technology, this is ultimately a better outcome as it will allow students more autonomy and self-accountability in their education (Tagsold, 2013, p. 137). With the input of students and teachers in solving this problem, technology can become the tool it was meant to be.

Conclusion

Having one-to-one laptop implementation was inevitable in the face of the Covid-19 pandemic. Now that students and teachers have access to the online learn-

ing environment, it is time to find meaningful solutions to the challenges teachers now face. There need to be boundaries in the use of technology and it needs to be used when it serves the ELA classroom best. In this way, ELA teachers need to be educated on the benefits and drawbacks in the use of technology as explored in this paper. Teachers need to promote meaningful interaction between students as often as possible in the learning process. These are among the many solutions that need to be explored in this next chapter of education.

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About the Author

Abigail Louise Dewire earned her B.A. in English and M.Ed. from the University of Toledo. She will not be teaching in the coming years, but plans to in the distant future. She has a passion for the development and wellness of all children.