

## **Impact of Technology on Middle School Students of Today**

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### **Abstract**

Every few years, a new label is generated to describe the latest cohort of young people, such as Generation X, Millennials, and the iGeneration. One of the biggest differences to set apart the current generation is the influence of technology in their lives. Students in the current generation have been exposed to technology since infancy, and technology has been used to enhance their learning and provide entertainment. The increase in technology has provided both a positive and negative influence on students' social development and educational experience. As teachers of the current generation, understanding these influences is salient to ensuring technology benefits students.

**Keywords:** middle school, technology, social development

### **1. Introduction**

As time changes, so do generations and the “norms”, identifiers, and stereotypes associated with them. The current generation, generation Z, includes children as young as 3 years old to those as old as 23 years,<sup>6</sup> but little has yet to be determined about this school-age generation. Each generation has been defined by an important aspect of history or influence, and the current generation has been defined by technology. One of the most recent generations, the Millennials, have been referred to as “Digital Natives” because these students are those who have grown up with the Internet and technology<sup>2</sup>. Technology has continued to change, and its influence in the education classroom may further influence the development of the current generation.

Various resources are available for teachers and students, and many schools are changing from a class set of computers to 1:1 technology to increase and expand learning for the students of today<sup>8</sup>. Companies, such as Verizon, have developed programs to increase technology in schools. Students in the current Generation Z may be more individualistic, which may be caused from their personalized learning resulting from the increase in personal technology<sup>1</sup>. Schools have adapted to these students' needs by providing many different solutions to help keep technology use in the classroom both safe and educational for all learners. Technology use can be beneficial, but it can cause problems in shaping experiences of young people today; therefore, educators should understand both positive and negative influences of technology for middle school students in their classrooms.

### **2. Technology Growth**

Every day, people use cell phones to check emails, make calls, and check updates on social media. A *New York Times* reporter explained that Lin-Manuel Miranda observed people at all ages as constantly on their phones.<sup>3</sup> He suggested that young people let phones control their lives. At restaurants, people look at the phone more than the person they

are eating with and young people often fill time by checking the latest notifications on their phones. Even young children have phones in their hands when playing a game<sup>3</sup>. Martin, Wang, Petty, Wang, and Wilkins (2018) suggest middle school students use social media on a daily basis to inform followers, friends, and family.<sup>8</sup> Few can deny the increasing presence of technology in our lives, and many use technology to stay informed and connect to others. However, the increase in technology causes a high concern for student's safety when considering Internet use in schools.

Many middle school students have grown up with technology and utilize it multiple times throughout the day. Students have been questioned by researchers about their digital footprint or students' information that has been published to the internet for others to view. The results explain that 17% of students started using social media at age nine or younger, 40% accepted friend requests from people they did not know, and 40% reported that their parents did not monitor their social media use.<sup>8</sup> As a result of the increasing digital footprint, students should be educated on personal safety regarding the internet.

Because of the increase in technology in schools, other important issues have come to light. Students express concern with social media regarding inappropriate postings, getting hacked, hurt feelings, lack of privacy, inappropriate pictures, bullying, negativity, and stalkers. In addition, cyberbullying is growing and gaining more serious attention from schools and media.<sup>8</sup> The increase in technology causes a high concern for students' safety when considering Internet use in schools. Martin et al (2018). found that a number of students admit that they have used or experienced things such as social media, sharing things online, or have been cyber-bullied. Teachers can help monitor students' web activity in class with different services like "goguardian", which is a software developed for educators for Chromebook management and web filtering in schools. Teachers can see every student's screen on his or her own screen. Also, teachers can help students by having a no-tolerance for cyberbullying if brought to the attention of the teacher.

Despite the fact that dangers exist in the increasing use of technology in schools, technology has contributed positively to educational learning experiences. Technology is changing the classroom, and the way content is taught. Starting back in the 70s, rapid growth in computers and other digital devices in K–12 education has enhanced the students' educational experience. Technology is growing fast, and the large growth of technology naturally has brought about positive and negative results.<sup>5</sup>

### **3. Social Impacts**

As technology has increased, impacts have also been seen in social development and social skills in the middle school students of today. Generation Z is said to be more individualistic than previous generations and middle school students may not be as confrontational as students in previous generations.<sup>1</sup> Currently, middle school students are more exposed to the world and local news because of social media and, students are more aware of what is happening in the world than in previous generations. Middle school students may also have greater exposure to others different from them, which may promote greater awareness and acceptance. However, the increase in technology has led teens to share a greater amount of personal information on the web.

With the growth of technology and social media, some negative social implications have become more common, such as sexting and cyberbullying.<sup>9</sup> Since the amount of time spent on social media is growing, cyber-bullying has become a pressing issue and has been taken more seriously at schools. The anxiety of adolescents is a leading result of the presence of cyber-bullying in middle schools and should be considered by educators. Despite the fact that some negative problems exist for teens and their social media use, schools have worked to enhance exploration without hindering social development. In addition, schools have created solutions to help promote understanding of online etiquette. As a solution to bullying, some schools have given more attention to the importance of social-emotional learning to help students understand why bullying is hurtful. Social-emotional learning is a program that helps to address various behaviors that are a problem right now and also leads to greater academic success.<sup>4</sup> Another solution to decrease bullying may be to establish Digital Citizenship classes where students learn what information should and should not be shared on the web in order to develop online etiquette. In these classes, students learn about security threats and scams in addition to how to treat others online. Students have a hard time comprehending that nothing is ever completely deleted online, information is traceable, and information leaves a path online. Offering online etiquette and digital citizenship classes may provide students with important information to decrease cyber-bullying and increase students' awareness of web access.

## 4. Educational Impacts

In addition to social changes brought about by technology, the current generation has also seen changes in education. The classroom of today offers a variety of different resources for both teachers and students. Google has many apps to help educators communicate, share, and collaborate with colleagues to share ideas for activities and other best practices. Google also has developed many different tools for the classroom, such as Google Classroom, a platform to provide interactive applications for students and teachers. Google Classroom allows teachers to create, distribute and grade assignments in a paperless way. Another positive impact technology has had on education is that teachers are able to create a more engaging lesson through the use of various tools in the classroom. One example is the increased use of technology for completing differentiated and authentic learning experiences such as project-based learning (PBL). PBL lessons can be enhanced through technology by creating digital portfolios and interactive platforms.<sup>10</sup>

However, the use of technology in the classroom can also lead to negative outcomes. As in other areas, technology can be a distraction in the classroom. Unfinished work in the classroom may require Internet access at home, and allow students to cheat or look up answers. Researchers found that 22% of low-income students do not have Internet access at home, and with school work being mostly virtual or online, students with minimal or no access to the internet at home may have difficulty completing assignments.<sup>7</sup> Another problem with technology use in the classroom comes from cheating. With technology so accessible, cheating has become easier for students. Students can search the internet for answers to assignments or purchase pre-made essays for writing assignments. Students also take pictures of notes or answers on their phones and use them on tests. Though technology has enhanced much of the classroom life, teachers need to consider ways to prevent cheating from occurring in the classroom and must stay ahead of students' ideas to cheat.

To provide students with innovative lessons, utilize technology to increase learning, and provide an individualized experience to minimize cheating, companies have created such platforms for schools. Currently, students want more engaging lessons or coursework that is not always present via pencil and paperwork. As a solution, companies have created programs to offer students these resources. One example comes from Verizon's innovative learning program, which provides free technology, free internet access, as well as hands-on learning to students around the world. Verizon started the program in 2012 and plans to continue to help 2 million more students in addition to the 1 million students the company has already been helped.<sup>11</sup>

## 5. Conclusions

As the current generation, now comprised of middle school students, is exposed to increasing technology, educators should consider the social impacts of technology of their social and educational development. As society seeks to define the newest generation of students one consideration should be the influence of technology on this Generation Z. Technology has offered both positive and negative social and educational influences and changes to the classroom should follow to enhance and combat these changes. Socially, teachers should create more engaging lessons to help students stay interested in course content in the classroom. Middle school students have a greater desire to be individualistic, but they need to have an understanding of the consequences of posting information online. In the classroom, technology is a great tool to enhance individualized learning experiences, but teachers need to be knowledgeable about the threats and be prepared to educate students on how to protect their personal information. Going 1 to 1 with technology can be very expensive for schools and districts, so districts may need to look for funding sources and company models for support, companies, such as Verizon, have stepped in to help schools that lack one-to-one technology, which may be holding students back from increased knowledge and learning in the classroom. Verizon has provided schools with hands-on learning devices at no cost to the schools, and the results from this program show great improvement. Just after 2 years, students who participated in the innovative learning program scored higher on their state standardized tests with scores as much as 3 times higher for math and 2 times higher for reading. The positive impacts of students gaining knowledge and learning greatly outweigh the negatives. That being said, most of the negative consequences of increased technology can be avoided with the right training or education for both students and teachers. As teachers prepare classrooms for the new generation of adolescent students, they might keep in mind how these students differ with the increased use of technology when compared to previous generations. Teachers should remember that in the classroom today, "everything is personalized and our learning needs to be personalized. Today's learners are growing up in a personalized life".<sup>12</sup>

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