Digital Transformation 2.0:
How IoT is Impacting Digital Transformation in Education

Digital transformation is taking hold in many sectors, including the education space. The technology advances have the power to impact both teacher and student, offering opportunities to interact with new technologies in ways that enhance the educational experience for all parties.

The Internet of Things (IoT) is one such transformative technology. A growing number of institutions are adopting IoT technologies to improve the teaching and learning environment, enhancing interaction and promoting anytime, anywhere learning. Connected devices can automatically adjust classroom lighting based on preset conditions, for example, while student mobile devices can be "pinged" automatically with useful information at various places within the school, such as reminders for after-school clubs or homework meetup locations.

IoT can be used by teachers, administrators and students alike, for various needs. Administrators can use IoT to increase and enhance the security of a school, enabling automatic lockdown in case of emergency such as a tornado warning or criminal activity in the vicinity of the school. Additionally, schools could use IoT-enabled facial recognition to identify people on camps and locate those who are not authorized, while sensor bands or ID tags worn by students can help track location at any time during the day.

IoT also can be used to monitor and manage facilities such as heating and cooling systems for operational efficiencies and to determine when it's time to service a machine or system. Likewise, the technology can help schools keep better track of their equipment, providing information that includes not only where a laptop is, but also who checked it out and when. Such information can help schools more easily account for equipment.

In the learning environment, IoT can be used by instructors to share information with students via digital devices. For example, a teacher writing on a digital whiteboard could send the information to a device of students' choosing – as an email, a text to the student's smartphone or as a note to a tablet. Teachers can also use data culled from personal learning devices connected to the cloud to determine which students need additional instruction, thereby enabling a more personalized learning environment. Likewise, the instructor could view and analyze the progress of the class as a whole to determine whether students are learning at an appropriate pace and make any curriculum adjustments as needed.

Students, too, can reap the benefits of IoT in the classroom. Through an IoT-enabled learning management system, students can be provided with personalized learning, enabling students to work and learn at their own pace. When they need help, digital assistants can help them work through

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problems or review concepts. IoT also can help them stay organized, automatically reminding them of important tasks or homework/project deadlines, for example.

IoT in the education sector is truly transformational, enabling educators and students to be more efficient and to improve learning outcomes. However, it—and all technologies related to digital transformation—need an infrastructure capable of handling the constant flow of data necessary to take full advantage of their benefits. IoT and other technologies transformative to education need a

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network powerful enough to provide the speed, agility and flexibility necessary to provide services that promote success in education.

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