# Top 5
# TECH ENABLERS

**Mobile Devices**

**1** Hand-held or wearable devices connected to the internet, such as smartphones and quantified-self sensor technologies, enable access to knowledge and creative activities anytime, anywhere. Mobile devices also support global connections, self-curated content and personalized learning. Schools around the world are using mobile devices to try to address digital equity issues—although mobile devices also can exacerbate gaps in learning opportunities.

**Blended Learning***

**2** A mix of face-to-face instruction and online learning reflects how people operate in the real world. Every experience seems to be a combination of face-to-face interactions with online components. Blended learning, also called hybrid learning, can provide a more personalized learning experience for students. Blended learning can diversify learning activities, giving students more autonomy and different opportunities to learn in ways that suit their preferences. Blended learning also can free up time for educators to work with individual students.

**Cloud Infrastructure**

**3** A virtual infrastructure delivered or accessed via a network or the internet enables schools to move hardware and software services away from physical locations. Shifting to cloud services makes teaching and learning resources more readily available in any location—and it can reduce costs. Like mobile devices, cloud infrastructure has implications for equity, particularly since not all students have access to the internet and Wi-Fi services outside of their school buildings.

**Extended Reality**

**4** Extended reality (XR) encompasses augmented, mixed and virtual reality—a collection of technologies that enhance the physical world with interactive digital imagery and graphics. Educators are beginning to use these technologies to help students learn complex content and to provide experiences otherwise impossible due to funding, geography or physical challenges.

**Analytics and Adaptive Technologies***

**5** Technologies that measure, analyze, predict and customize student learning and other factors in student success could help educators individualize and adjust learning experiences for individual learners, build on student assets and offer targeted support to address student needs. Adaptive systems vary widely in sophistication, with true adaptive engines still somewhat aspirational.

* Featured in this *Driving K–12 Innovation / 2019 Tech Enablers* report