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Innovation is key for educational equality

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Soon more than 50 million American students will start or head back to K-12 public schools. Many will go to classrooms with devices like iPads or laptops for each student, smart boards and other emerging technologies. Their parents will log in to online portals or smart phone apps to check their grades or pay for lunches. Others will have less access to the latest and greatest school tech.

There is a "digital divide" which I saw up close while teaching in the Mississippi Delta that we should seek to close. But there is good news, too: Technology is already becoming the great educational equalizer.

About 100 years ago, only 78 percent of school-aged children were enrolled in school. In the late 19th century, that figure was just over half. So what enabled such a huge jump?

While societal reforms placed an increased value on education, technology played a major role. New inventions like tractors, electricity and running water freed up children from the menial labor previously required to run a home or a farm. These inventions weren't designed to send children to school, but parents and society could suddenly afford to invest more in opportunities for the next generation.

Innovators quickly embraced it. In fact, early tractor advertisements promoted slogans such as "Keep the boy in school and let a Case Kerosene Tractor take his place in the field." Today, as HumanProgress.org's Chelsea Follet points out, washing machines and other basic household labor savers are allowing more girls in developing nations to attend school.

We take tractors and washing machines for granted these days, but newer technologies like video conferencing, artificial intelligence and robotics are also allowing more students to attend classes with their peers.

Students who fall ill for significant periods of time are now able to attend using video conferencing technology and robot proxies. Multiple AI and robotic innovators are working on methods that help empower autistic children to interact more effectively. Students who once would have been marginalized or otherwise excluded are now far less limited and better able to enjoy the student experience.

Advances like high-speed internet also help schools cater to their students' talents and interests. Schools can offer programs that would have been impossible in the past due to limited resources.

Districts can offer more classes and reach children in isolated areas through virtual schools or classrooms.

Colorado's rural Arickaree School District is collaborating with a specialized STEM (Science, Technology, Engineering, and Math) school more than 100 miles away to offer classes via simultaneous teleconferencing. Google has launched a virtual field trip program, Google Expeditions, allowing students to experience the wonders of the world (and beyond) using a low-cost "Google Cardboard" device.

Some have raised concerns about the implications for student privacy. Much like society as a whole is now doing, parents and school districts must decide where the appropriate balance is between privacy and new opportunities.

It's fair to be concerned about whether all students are getting equal opportunities to live up to their potential. Technology may one day close those gaps: Maybe one day the school bus will be autonomous. Maybe we'll cease teaching cursive and focus on iPad skills instead. Digital citizenship will need to be incorporated into curriculums at least as much as character education.

Today, let's not lose sight of the fact that things are getting better, and technology is already breaking down barriers in education.