



# TECHNOLOGY OFFERS NEW POSSIBILITIES FOR TEACHING AND LEARNING

*New technologies have the potential to disrupt education for the better.*

## WHY IT MATTERS

Technology is already playing a crucial role in providing support to teachers, students, and the learning process more broadly. In a field that is developing at dizzying speeds, new solutions to educational challenges are springing up everywhere. At the classroom level, machine learning technology can enhance the effectiveness of teachers and can allow students to learn at their own pace. At the education system level, technology can help make possible more evidence-based decisions for policy and service delivery. Digital platforms expand access to state-of-the-art knowledge and interactive learning. Assistive technologies can support access for people with disabilities. These all can help create a richer environment for learning and foster inclusion. Our challenge is to make technology a driver of equity and inclusion and not a source of greater inequality of opportunity.

## OUR APPROACH

The World Bank works in partnership with governments and organizations worldwide to support innovative projects, timely research, and knowledge-sharing activities about the effective and appropriate use of educational technologies to strengthen learning. We have set ambitious goals to increase the use of digital technologies in classrooms, schools, and education systems as a whole. We approach this through what we call the 3Ds: Discovery, Diffusion, and Deployment of Disruptive Technology Solutions in Education. We want to **Discover**, document, generate, and analyze evidence-based and promising technology solutions for education in developing countries; **Diffuse** this knowledge in our client countries and ensure capacity to use this new knowledge; and **Deploy** solutions using an evidence-based approach that also targets barriers to adoption.



For the foreseeable future, education will remain a fundamentally human interaction-intensive endeavor. The challenge is to give educators the skills to use technology effectively and to support students in getting the competencies needed to thrive.

## OUR PRIORITIES:

### 1 Using technology to improve quality of teaching

We aim to boost the capacity of teachers by deploying technologies that help improve daily lesson planning and delivery, foster collaboration, and support long-term development. For example, technology can be used to expand the reach of the best teachers by enabling them to deliver education at distance or to coach other teachers.

### 2 Deploying technology for the development and measurement of the breath of skills needed in the 21st century

Technology can be used for fostering higher-order skills like problem solving and creativity; teaching abstract concepts in science to hands-on learning; and building social-emotional skills like persistence, resilience, empathy, and collaboration.

### 3 Using technology to improve implementation capacity of education ministries

Technology is one tool used for improving the capacity of government ministries to collect and analyze information on facilities, enrollment, student achievement, financing, human resources, and citizen feedback. Deployed correctly, technology and the metrics collected can be used to improve the quality and equity of service delivery, lower costs, and elevate safety measures.

### 4 Incorporating technology for more customized learning approaches

Education systems can improve learning by using interactive and real-time metrics to provide teachers with information on how students are doing, making it possible for teachers to adapt lessons to the needs of the students.

### 5 Using technology to expand access to education

The World Bank sees potential in using technology to enrich the learning environment and increase access to textbooks and reading materials, and to expand opportunities for children to learn independently or with light adult supervision, in particular in fragile and conflict contexts or remote areas where teacher support is scarce.

### 6 Developing digital literacy

Young people—and adults—must be proficient and comfortable with technology to have the skills to thrive in an increasingly technology-intensive workplace, and to confront larger challenges which demand sophisticated levels of knowledge and technological innovation.

### 7 Improving accountability and parental engagement with technological tools

Technology can be used to facilitate attendance tracking, monitor teacher absenteeism, and report on student assignments, performance, and learning assessments.

