Context

The use of information and communication technologies (ICT) in education can play a crucial role in providing new and innovative forms of support to teachers, students, and the learning process more broadly. With globalization, the information revolution, and increasing demands for a highly skilled workforce, nations are increasingly prioritizing education. Determining the best tools to support learning, and to increase the efficiency of education systems, is critical to that effort.

The potential and promise of ICT use in education is clear: when implemented correctly, software in the classroom, for example, can allow students to learn at their own pace and tablets can help children develop important digital skills and computer know-how that they’ll need to succeed in our knowledge-based economy. But potential related challenges, such as high costs, increased burdens on teachers, and implementation difficulties, are well known and documented. Many high-profile ICT-related education initiatives have had little measurable impact on student reading or math ability—despite the best of intentions. Indeed, more evidence is needed to better understand the impact of ICT use on teaching and learning and the ways in which a variety of hardware and software tools, as well as faster, more widespread and reliable Internet access, can accelerate learning across the developing world, help children develop the foundational skills they need for success.

The World Bank Group (WBG) is working in partnership with governments and organizations worldwide to support innovative projects, timely research and knowledge sharing activities about the effective and appropriate use of ICTs in education systems to strengthen learning and contribute to poverty reduction around the world. Support for ICTs in education includes assistance for equipment and facilities; policy development; teacher training and support; capacity building; educational content; distance learning; digital literacy and skills development; monitoring and evaluation; and research and development (R&D) activities.
Strategy

As the WBG continues to support ICT in education through financing, policy advice, technical support, and research, several key messages will continue to inform related policy discussions:

**Technology should support teachers—not replace them.** Technological innovations have the potential to increase learning, provided that they enhance, rather than circumvent, the teacher-learner relationship. Introducing new technologies will not replace teachers. In fact, experience from around the world shows us that, over time, teachers’ roles become more central— and not peripheral— as a result of new technologies.

**Training is essential.** Opportunities for technical training and ongoing professional development and support for teachers are essential if schools and countries want to reap the benefits that ICTs can provide. Ongoing training and professional development helps motivate teachers to use the equipment they're provided more efficiently, and can help them explore innovative new pedagogical practices.

**ICT is more than just distributing computers.** ICT can be used broadly, not just in the classroom, but as a tool that transforms the way that students, teachers, parents and schools communicate and support each other. Online and mobile messaging tools can help learners and parents to communicate with teachers about assignments and materials; repositories of digital learning resources can provide free materials for educators and parents to design age-appropriate development activities.

In addition to its lending activities to countries, the WBG is increasingly engaged in providing technical assistance and advisory services to countries to help them better plan, implement, monitor and evaluate their efforts to introduce and sustain technology use in education to aid their development efforts. These advisory services draw on best practices from around the world and are informed by a variety of supporting research activities, including the WBG’s Systems Approach for Better Education Results (SABER). SABER-ICT helps policymakers make informed decisions about how best to use ICTs in pursuit of core developmental objectives in the education sector.
The WBG is actively engaged in and supports a wide variety of applied research activities related to technology and innovation in education, in order to:

- Explore emerging and frontier policy issues;
- Investigate, evaluate and document "what works" (and what doesn't); and
- Contribute to the broader related global knowledge base, debates and policy dialogues on related topics.

As policymakers and development experts explore the potential for ICT in education, it’s important to remember that technology in and of itself isn’t a panacea. Harnessed correctly, ICTs can be critical to our efforts to give children a solid education that equips them for success, now and in the future – at school, at home, on the job, and in their communities.

**Results**

The vast majority of active WBG education projects contain an ICT component. Examples of past projects include:

In **Russia**, the WBG enhanced the national capacity to produce high-quality learning materials, support teacher training in the educational use of ICT, and develop a network of interschool ICT resource centers.

In **Jordan**, the WBG helped to transform the education system at the early childhood, basic, and secondary levels to produce graduates with the skills needed for the knowledge economy.

In **Turkey**, the WBG supported a program that provided ICT training to teachers to improve basic computer skills and better use ICT in their classroom instruction. Knowledge economy is mentioned above so I just shortened it.
The WBG blog, EduTech, provides regular updates on work related to technology and innovation in education, and regularly profiles lessons and results from these and other projects around the world.

The WBG also releases a number of publications each year on specific projects and themes related to technology and innovation in education. Recent notable papers and presentations include:

- *Building and sustaining national educational technology agencies: Lessons, Models and Case Studies from Around the World*
- *Evoke -- Developing Skills in Youth to Solve the World’s Most Complex Problems: The Social Innovators’ Framework*
- *SABER-ICT Framework Paper for Policy Analysis: Documenting national educational technology policies around the world and their evolution over time*
- *The Role and Status of National Research and Education Networks in Africa*

**Partners**

The WBG maintains active partnerships with many like-minded organizations around the world to support research, knowledge-sharing, and initiatives related to technology use and innovation in education, including UNESCO, USAID, UIS and UNICEF, and as part of the mEducation Alliance. Particularly notable in this regard is the WBG’s decade-long partnership with the Government of Korea (in particular, the Korean Ministry of Education and KERIS, the Korean Education Research & Information Service), which has supported a variety of research, knowledge sharing and technical support activities around the world. These includes hosting the annual Global Symposium on ICT Use in Education, the world’s premier knowledge-sharing and networking event of its kind for senior policymakers and practitioners actively engaged in the use of educational technologies in their countries.