Bridging the Digital Divide through Education

Globalization and rapid technological change have made knowledge a critical determinant of competitiveness in the world economy. Countries able to seize the opportunities created by innovations in science, communications and computing technologies may be able to "leapfrog" in industries such as telecommunications, power generation and food production. However, the knowledge revolution also brings with it the threat of a widening gap between developed and developing countries--with disparities in access to knowledge and information, reinforcing existing differences in capital and other resources.

The exponential rise of communications technologies has also exacerbated the divide between low- and high-income countries and the differences in access are considerable. Today, the number of television sets per 1,000 inhabitants ranges from less than one in Eritrea, to 5.5 in Ethiopia, 64 in Cote d'Ivoire, as compared to 322 in Trinidad and Tobago, 469 in the Czech Republic and 805 in the United States. The number of personal computers per 1,000 inhabitants ranges from less than 1 in Burkina Faso, 27 in South Africa and 38 in Chile to 172 in Singapore and 348 in Switzerland—without counting that there is an average of one Internet user per 5,000 persons in African countries compared to 1 user per 6 persons in Europe and North America.

In this dynamic context, the acquisition, creation, adaptation and dissemination of knowledge need to be explicitly built into a country's overall development strategy by:

- updating the economic incentives that give countries the flexibility to compete in capital and labor markets and have access to the knowledge revolution;
- putting in place a "human infrastructure" – the knowledge and education networks and the learning communities;
- establishing a dynamic national information infrastructure, to include both "pipes" and the regulatory and competitive regime; and,
- creating national innovation systems through which locals can acquire global knowledge, create and adapt knowledge appropriate to local circumstances, and disseminate it to those who need it.

Formal education and life-long learning are at the core of this strategy. A country's capacity to take advantage of the knowledge economy depends on how quickly it can become a "learning economy." Learning means not only using new technologies to access global knowledge. It also means using them to communicate with other people about innovation.

In the "learning economy", individuals, firms and countries will be able to create wealth in proportion to their capacity to learn and share. This requires fundamental shifts in formal education systems, where the focus needs to be on teaching people how to learn, as opposed to transmitting facts. This also requires a renewed emphasis on life-long learning to foster the virtuous circle of discovery, dissemination, and emergence of shared understandings.

Governments will need to select a combination of old and new technologies to respond to their educational needs and improve the quality and efficiency of teaching and learning at a reasonable and sustainable cost.

The application of Information and Communications Technology (ICT) offers a tremendous potential:

- an increased access to under-served areas through distance learning;
- improved quality of teaching and learning, through appropriate software aimed at providing information, tools and interactive learning;
- strengthened education management systems, through connecting educational administrations and providing real time data/indicators; and
- shared knowledge among policy makers and other stakeholders through well-organized knowledge management systems.

The World Bank's Response So Far

The World Bank plays an important role in assisting countries to prepare for the knowledge economy so that they can exploit the opportunity of the knowledge revolution and not fall behind in a "digital divide."

The Human Development Network (HDN), along with its partners, provides knowledge management, technical assistance and training resources and services for Bank staff and decision-makers in client countries in the areas of distance education and use of technology for educational purposes. As such, the World Links for Development program (http://www.worldbank.org/worldlinks) provides Internet connectivity and training for teachers, teacher trainers and students in developing countries. The World Bank Institute (WBI), the Bank's capacity-building arm, seeks to assemble, package and deliver to clients the latest thinking and experience emerging from around the world on issues crucial to reform and economic development (see, for example, http://www.worldbank.org/distancelearning/gdln).

The Bank has also developed and supported lending instruments favoring education technology—which explains the sharp increase in Bank-financed education projects. Between 1997 and 1999, the number of education projects financing distance education activities and education technology activities has increased respectively by 20 and 90 percents—with projects in Latin America and the Caribbean accounting for one-third of these.

In the past years, the Bank has also hosted two Global Knowledge Conferences: first, in Canada (June 1997) and then in Malaysia (March 2000).

Task Force on Bridging the Digital Divide through Education

Building on all these initiatives, the World Bank's HDN has set up a Task Force on Bridging the Digital Divide through Education (http://www.worldbank.org/education/digitaldivide). It aims to assist client countries make timely decisions regarding technology in education by developing policies and strategies and to enhance capacity building. More specifically, it will produce a toolkit/sourcebook and organize an international workshop with partners to discuss key issues. In terms of learning programs, the Task Force will promote projects that help address key education issues of quality, increased access and effective management in client countries.

To address those concerns, HDN has developed, with external partners, the Global Distance Education Network (http://www.worldbank.org/disted), a coherent and comprehensive guide to distance education. It is designed for Bank staff, policy makers, development managers, representatives of civil society and education practitioners in the complex process of setting up and maintaining cost-effective distance education programs. The second phase will involve the creation of a global development network with regional sites around the world through an InfoDev project (http://www.infodev.org).

Program Highlights for Coming Year

On policy development, strategy and capacity building, the Task Force will:

- Disseminate studies on the impact of technology in education;
- Issue a paper on role of government in facilitating technological innovation in education; and,
- Produce sourcebook/toolkits

The Task Force has also proposed a fund for "Technology Innovations for Learning," which would bring together partners to experiment with in-country innovations that use technology solutions to tackle education problems.

By partnering with the private sector, the Task Force will use EdInvest (http://www.worldbank.org/edinvest), to play a catalytic role for the Bank in promoting private investment ventures in education in developing countries. The end result will be the production of a toolkit on public-private partnerships.

The Task Force will end with an international workshop that would allow the World Bank and its partners to discuss strategies and adapt the Sourcebook/Toolkits that the Task Force would produce.