WORLD LINKS FOR DEVELOPMENT PROGRAM (WorLD) *

I. Abstract

The World Links for Development Program (WorLD), managed by the World Bank, functions to enhance knowledge and professional development through information and communication technology (ICT), by linking thousands of teachers and students in developing countries with their counterparts in the industrialized economies.

Students from all over the world participate in collaborative projects, voice their opinions in online discussions, and gain access to information on the web. Professional development of teachers is ensured through technical and pedagogical training on a continuous basis. An attempt is thus made to integrate ICT in the course curriculum with the objective of increasing student knowledge and improving the education system in developing countries. Through the medium of ICT, the program seeks to empower the students and teachers of the participating nations, by placing them on a common platform of global knowledge and information.

Although the program is designed to give equal gender access to participating schools, cases of discrimination against girl students are noted in a few countries. Some of the other challenges faced are inadequate hardware and software, slow Internet connectivity, high implementation costs and inability of students to pay high fees for accessing technology.

II. Background

World Links for Development began in 1997, as a five-year pilot initiative (1997-2002) of the World Bank's ICT for Education program. In order to meet the continuing and growing demand of the developing countries to conduct professional development programs in ICT, World Links was established as a nonprofit organization, independent from the World Bank, in 2000. The teacher training and professional activities are managed by the World Links NGO, while the program is funded by other public, private, and nonprofit organizations including the World Bank.

In the beginning, it started on a school-to-school initiative, using the Internet to connect teachers and students in a school in Uganda to another in Wyoming (USA). Since then, it has expanded its teacher training and professional development activities and is currently active in 15 countries in Africa, Latin America, the Middle East and Asia.

The mission of the program is to assist developing countries in generating awareness about digital learning resources while in the process expanding their access to information.

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Apart from providing schools with infrastructure needed for digital learning, WorLD has focussed on training teachers with the help of professional training material, consisting of five modules of 40 hours each. Available in five languages (English, French, Spanish, Portuguese, and Turkish), these modules can be adapted to country specific-needs.

In order to extend the benefits of ICT to the entire community, the "community learning centers" have been established by world links and supporting partners. Training is imparted in areas such as computer literacy, "HIV/AIDS and ICT," and "entrerprenuership and ICT."

WorLD coordinates its activities through regional and global partnerships with public, private and nongovernmental organizations. In addition, the program is also supported by a number of private sector firms, governments and national and regional schoolnets.

The pilot phase of the project ended in June 2002. World Links continues to develop and deliver teacher training programs at the school level in a growing number of developing countries around the world.

III. Impact/Results

Impact on Students

Tangible improvements have been noticed in the areas of technical learning, academic knowledge, reasoning, and analytical skills. SRI (Stanford Research Institute) International survey report indicates the development of a positive attitude among students towards the use of technology as a tool for learning, increasing knowledge of other countries and cultures, and collaborating in groups at a local, national and international level for joint projects.

Integration of ICT with education has trained students in skills essential to finding better jobs in the information age. Collaborative youth projects, such as "HIV/AIDS," the "Street Children Project," and "Environmental Awareness Project," to name a few, have resulted in high information sharing and increased knowledge levels among the students, as they also try and contribute towards a social cause.

Table 1 (below) compiled by SRI International indicates the responses of students, teachers and administrators on the impact of the WorLD program on the participating students. Significant improvements can be noted in different areas of student learning as a result of the integration of ICT in the course curriculum. On six out of a total eight parameters, teachers appear to have benefited considerably more than either the students or the administrators. An interesting exception was the perceived improved ability to get better jobs upon graduation, and 77 percent of students believed that they benefited very much from participation.

Table 1: Perceived Impact of the WorLD Program on Participants

How much impact participation in the WorLD Program had on students…	***Percent of Each Group Who Responded "Very Much"***		
	Students	*Teachers*	*Administrators*
Improved technology skills	62.9%	88.0%	64.7%
Improved attitudes towards technology	69.9%	86.3%	70.6%
Improved ability to reason with information	60.6%	71.4%	64.7%
Improved communication skills	70.9%	74.0%	73.3%
Increased knowledge or awareness of other cultures	59.6%	67.4%	47.1%
Improved attitudes towards school.	66.1%	78.0%	76.5%
Improved school attendance	64.5%	31.1%	50.0%
Improved ability to get better jobs upon graduation	76.8%	48.3%	25.0%

Note: The options provided to respondents were: "not at all," "somewhat," and "very much."
Source: http://www.worldbank.org/worldlinks/english/assets/SRI_WorLD_tables.pdf.

Impact on Teachers

Training modules designed and developed by WorLD have today trained 1,30,000 teachers in the use of the Internet as an instructional tool. Continuous professional development has aided in teachers' technical and pedagogical development. Improved efficiency levels in collaboration with peers for project designing and use of innovative teaching methods are some of the other noted differences among the teachers. The quality of education in these teachers' classrooms has greatly improved, along with the development of strong positive attitudes towards technology and teaching among the teachers and administrators.

Table 2: Impact of WorLD Program on Teachers

Impact of program on teachers' skills, abilities, knowledge and attitude	***Percent of each group who responded "very much"***	
	Teachers	*Administrators*
How to use computer hardware	70.0%	82.4%
How to use applications software	66.7%	66.7%
How to use internet software	73.3%	80.0%
How to develop web pages	47.4%	52.6%
How to use student groups in teaching	62.7%	60.0%
How to design and lead collaborative student projects	67.8%	57.9%
How to design and use student assessment materials	45.6%	35.0%
How to collaborate with other teachers on developing materials	51.7%	44.4%
How to integrate computers into the curriculum	39.0%	40.0%
Attitudes about technology	72.4%	85.0%
Attitudes about teaching	74.6%	90.0%

Note: The options provided to the respondents were "not at all," "somewhat," and "very much."
Source: http://www.worldbank.org/worldlinks/english/assets/SRI_WorLD_tables.pdf

Impact on Girls and Boys

The program revealed high impact on both girls and boys in terms of knowledge about other cultures, attitudes towards schools, and communicating with others. Higher self-esteem, improved academic results, information reasoning and communication skills were noted more among the girl students. The Monitoring and Evaluation Annual Report 1998-1999 indicates that 71.4 percent of the girl students interviewed had positive attitudes towards getting a job after their education. On the other hand, technological skill enhancement and increased access to computers were the major areas of impact on boys.

Table 3: Impact of WorLD Program on Girls and Boys

Use of computers has contributed to improvement in attitudes about…	***Percent of each group who responded "very much"***	
	Girls	*Boys*
Learning in school	68.3%	61.1%
Academic subjects	51.7%	53.6%
Importance of technology in your life	72.1%	77.0%
Using technology to learn	77.3%	76.8%
Being prepared to get a job	71.4%	64.9%
Knowing about cultures or countries	62.2%	60.6%
Collaborating in groups	63.9%	66.2%

Note: The options provided to respondents were: "not at all," "somewhat," and "very much."
Source: http://www.worldbank.org/worldlinks/english/assets/SRI_WorLD_tables.pdf

Impact on Schools

Schools that were once isolated in small regions are now connected to the whole world and are a part of the knowledge economy. Students in schools with poorly stocked libraries have access to extensive information on the web. The program has opened the gateways of technology and information for these institutions and given them a fair chance to make the best use of these resources. Within these schools, the program has resulted in increased sharing of resources, improved curriculum, better organization, and the team teaching of courses.

In Uganda, the program has expanded to 32 schools, with 1,920 teachers and over 30,000 students. Similarly, in Ghana, close to 9,000 students actively participated in the program. In 2001, one of the projects that a World Links school in Ghana had been working on was nominated for the prestigious Stockholm Challenge award in recognition of the innovative use of ICT around the world.

IV. Key Elements of Empowerment

Access to Information

A pool of knowledge, resources and educational material at their doorstep has made a significant difference in the intellectual and learning capacity of the students and teachers covered by this program. Interaction with peers across the world and access to the plethora of data on the web has empowered students and teachers to venture out into the complex information-based society. It has given a new meaning to schooling and education.

Accountability

As students become more computer savvy and indulge in information sharing activities, teachers are forced to carefully plan and prepare their lessons before coming to class. Students are no longer passive receivers of information, but continuously analyze and question facts presented to them. Accountability is thus enforced on the educators.

Inclusion/Participation

Connecting the schools by the web has in turn connected students across many countries. Students actively participate in collecting information from the Internet for projects, assignments and other academic reasons. In addition, collaborative youth projects, such as the Youth Information Technology and Microenterprise Project (YouthIT), seek to train students in ICT related skills along with entreprenuership development techniques. It is hoped that students will be successful in obtaining employment or initiating their own businesses after undergoing such training.

Workshops and training sessions conducted for national policy makers are channels for disseminating information on ICT and its integration with the education system. Through active participation and interactive sessions, an attempt is made to educate the policy makers on the current status and potential benefits of ICT, and thus aid in their policy formation process.

Local Organizational Capacity

The World Links program has connected 500 schools, reaching an estimated 1,000,000 teachers and students in different developing countries. Collaboration among students from various countries has lead to the initiation of many projects. For instance, a project on HIV/AIDS was implemented by students of different countries working together, with the aim of increasing awareness and thereby preventing the spread of AIDS within their communities. Following an AIDS conference in South Africa in July 2000, one WorLD teacher started a peer education program at his school in Ghana. A local NGO, Aids Action Group and the West Africa Secondary School held a four-day Peer Educators Training Workshop in the WorLD computer lab.

The list of projects along with their current status is put up on the web, enabling the students to navigate the link, learn more on the project, and collaborate in its implementation.

V. Issues and Lessons

Although the WorLD program is helping to improve capacity to use ICT effectively in participating countries, numerous challenges hinder the growth and expansion of this initiative.

For example, a significant number of teachers in both Latin American and African countries reported that the lack of computers, inadequate hardware and software, unreliable Internet access, lack of dependable electricity supply, and the scarcity of time constituted major barriers keeping them from integrating computers in their teaching. The majority of teachers in Uganda reported inadequate telephone lines or service for access to the Internet as a barrier to implementing the computer-related activities as planned. Teachers in selected countries also indicated a need for more technical support in integrating ICT into the curriculum and stronger national policies on the role of technology in student learning.

The program is intended to give gender-impartial access to computers. However, as per the data available, a majority of the girls in Ghana and Uganda have complained of discrimination in access to computers. Girl students in other developing countries covered in this program may also be facing such discrimination, although no data is presently available.

Some of the lessons learned from the program can be summarized in the following paragraphs.

Improving Access to Technology

Many of the schools in participating countries have inadequate infrastructure and resources for switching over to new technologies. To sustain the use of ICT on a large scale, it may be necessary to reconfigure budgets to fund the implementation of new technologies. A joint plan needs to be initiated among all the countries and policy makers, in order to provide reliable, affordable and high-speed access to all the schools within the program.

Collaboration with Ministries of Education (MOEs)

A number of WorLD teachers in different countries identified lack of national policy on technology use in schools as a major barrier to using computers in the classrooms. The WorLD program needs to coordinate with the ministries of education in order to develop strong national policies that outline the role of ICT in education. There is a need to form

forward-looking policies and to spell out how technology fits into the countries' local context, given the country's available resources and priorities.

Provision of Continuous Learning Opportunities for Professional Development

Meaningful professional development views teachers as continuous learners who need opportunities to discuss student work, plan challenging lessons, and problem-solve issues relating to their immediate school context. Professional education on technology integration should be provided on an ongoing basis through follow-up coaching, teachers' online networks, peer coaching, and school-wide professional development.

Organizational structures and supports for teacher learning

Apart from training sessions, school-based organizational structures are needed to support development of the teaching staff. Provisions should be made for the effective implementation of the following:

- Effective and knowledgeable leadership (by principals)
- Meaningful context-specific teacher evaluations
- Scheduling and creating time for teacher collaborations
- Peer observation, mentoring
- Adequate support staff.

Elimination of gender bias

In order to tackle the issue of gender discrimination, schools should develop "fair use policies" for their computer labs. Awareness sessions on gender and development can also help broaden the orthodox value systems of the community.

Although many issues still need to be resolved, World Links for Development Program has successfully empowered the students and teachers of developing countries, by giving them access to global information. Positive attitudes and high confidence levels have been instilled as a result of such information availability, as students and teachers across the globe indulge in knowledge building and sharing activities.

VI. Further Information: World Wide Web Resources

www.worldbank.org/worldlinks/english

http://www.worldbank.org/worldlinks/english/assets/SRI_M-E_Annual_Report_1999-2000.pdf

http://www.worldbank.org/worldlinks/english/assets/SRI_WorLD_tables.pdf