

**The Leland Initiative:  
Africa Global Information Infrastructure Gateway Project (698-0565)**

**Strategic Objective 3: End-User Applications**

**Internet for Development: Applications and Training  
School-to-School Partnership  
Ghana**

February 17 -18, 1997

**Prepared for:**

United States Agency for International Development  
Africa Bureau, Office of Sustainable Development  
USAID/Accra

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## **Introduction**

The purpose of the Leland Initiative's School-to-School Partnership program is to promote win-win partnerships between schools in Africa and the United States via the Internet. In African countries, this Initiative, in conjunction with the USAID mission's bilateral funds, may assist schools in becoming aware of the academic uses of the Internet, and in acquiring the hardware and training needed to participate in the Partnership.

The benefits of the Leland Initiative's School-to-School Partnership are four-fold. First, it gives students a meaningful introduction to new technologies and provides them with the skills and the means to access resources previously unavailable due to high communications costs and limited communications technologies in Africa. Second, it aids faculty and administrators to enhance their skills and provides them with resources to further develop their curricula. Third, the dialogue and projects created through this Partnership will enrich the African resources available on the Internet, supplying much-needed information about Africa to the world. These are linkages essential to today's global economy, the means by which Africa will leapfrog into the 21st century. Last, in developing the skills of the participants, this Partnership cultivates the current and future markets for Internet technologies. The School-to-School Partnership contributes to the long-term growth of the user base and can help develop human resources at the country level, complimenting other Leland SO3 activities.

## **Background**

The Leland Initiative's School-to-School Partnership program began in Ghana in October 1996 when six schools in Accra were selected to explore the potential of incorporating the Internet into their academic activities with USAID support, and subsequently corresponding with three schools in the United States.

Since October, Laura Brodrick, USAID/Accra Leland Coordinator, has given technical advice and encouraged the two schools that are currently on-line to begin collaborative projects with the U.S. schools. She has also introduced the Internet to many other interested schools in Accra, and facilitated USAID-funded Internet connectivity for 20 schools, for 1 year.

The next step of the Partnership was to provide an introduction to the Internet to the schools most interested, those taking the most initiative to get connectivity, and those most enthusiastic about sharing these technologies. The training team spent two additional days with the schools' teachers and administrators providing the same training as USAID's *Internet for Development: Applications and Training* (provided to USAID staff and partner institutions), with educational resources and extended brainstorming sessions for the schools to plan next steps.

## **Summary of Training**

The training took place in the Lincoln Room of the USAID/Accra Mission on February 17-18, from 9:00am to 4:00pm, and was conducted by Steven Dorsey, Amy Oggel, and Zoey Breslar. A total of 51 teachers and administrators, with varying levels of computer skills, were trained.

(See Annex B for a listing of participants.)

The *Internet for Development: Applications and Training* sessions began with a slide-show which described the Internet, and gave a brief history of its development. Six hours of hands-on Internet use followed, including an introduction to basic Netscape features, listservs, email, search engines, searching the Web, and browsing education-specific sites. Trainers were available throughout the day to give individual assistance and to answer questions. (See Annex A for agenda.) Much hard copy material was distributed to participants, listing sites for teachers, students, and administrators, including sections copied from *The Educator's Internet Resource Handbook*, *K-12 Resources on the Internet: An Instructional Guide*, and *The Internet and Instruction: Activities and Ideas* (see Annex E for bibliography). These gave guidelines for incorporating the Internet into academics and the advantages of the Internet in school settings.

Additional hand-outs that were provided, included Ghana-specific sites, other guides, and a glossary. Laura Brodrick, USAID/Accra Leland Coordinator, also distributed information on local Internet Service Providers and approximate costs for Internet services. (See Annex A for materials.)

The second day of training focused on the science resources on the Internet, though the training differed very little from the first day due to the varied computer experience of the participants. Most of the time was spent becoming familiar with the Netscape software and the Internet. Hand-outs included a supplemental list of science sites, and participants were encouraged to explore the Internet for science information and related classroom materials.

Feedback on the training was requested at the conclusion of each session. In general, participants found the sessions useful, but recognized that they had only been able to scratch the surface of what the Internet has to offer. Further training will be needed for teachers before they are ready to introduce the Internet to their students. (See Annex D for feedback form and results.)

### Discussion

At the end of each training period the participants were brought together for a brainstorming session to discuss the advantages of using the Internet in schools, the constraints they face in getting Internet connectivity for schools, and the next steps for making the Internet an effective tool for Ghanaian schools. (See Annex C for discussion notes.)

In general, it was agreed that Internet access would be an asset to any school in that it would provide supplemental skills and information to students, teachers, and administrators. Information available on the Internet fills many of the gaps created by outdated or non-existent textbooks. And, the opportunities for networking with other schools and allowing African students and teachers to interact with others world-wide are invaluable. However, the cost of equipment and connectivity are serious barriers to making this technology a reality for most Ghanaian schools. Discussions about sharing computer/Internet resources and the potential of

the 110 district-level Science Resource Centers to act as additional resources inspired participants to form an association. The first meeting of this association, *Partners for Internet in Education*, is scheduled for March 10th, when they will discuss assisting one another in taking advantage of Internet technologies.

### **Next Steps**

Laura Brodrick agreed to coordinate the first meeting of *Partners for Internet in Education*, with the understanding that the association then would assume that responsibility and her role would become an advisory one. This association has the potential to incorporate all schools in Accra interested in Internet technologies (and in the future, potentially support/advise those outside of Accra). It will act as an advocate for the schools' interests, argue for the need for the Internet in schools, and benefit from the new resources being offered by the Science Resource Centers. In doing this, there would become a national awareness of Internet use in schools.

Ghana will soon become a recognized participant in the GLOBE (Global Learning and Observations to Benefit the Environment) Program, an international science education program with an Internet component. Schools, both with and without Internet connectivity, will be able to participate in this Program upon the signing of the bilateral agreement. The GLOBE Program is an excellent way to further incorporate scientific methodology into the classroom, as well as provide a structured introduction to the Internet and show its relevance in classroom activities.

### **Conclusion**

The training and grants provided by USAID/Accra and the Leland Initiative have given the *Partners for Internet in Education* and introduction to Internet technologies and a foundation on which to build. This association has the potential to introduce and make sustainable the use of the Internet in schools throughout Ghana, as it is relevant, useful, and feasible.

## **Annex A**

### **Training Agenda and Materials**

**Internet for Development Applications and Training**  
**The Leland Initiative's School-to-School Partnership**  
February 17 - 18, 1997  
USAID/Accra

Agenda

- 9:00 - 9:15 Welcome and Meeting Logistics  
Laura Brodrick, USAID/Accra
- 9:15 - 10:00 Introduction to the Internet  
Zoey Breslar, Leland Initiative
- 10:00 - 10:15 Break
- 10:15 - 11:30 Introduction to Netscape  
Browsing and individualized help, includes school-specific resources  
Introduction to Internet Searching  
Steven Dorsey, Zoey Breslar and Amy Oggel, Leland Initiative
- 11:30 - 12:30 Lunch
- 12:30 - 1:00 Email and mailing lists
- 1:00 - 1:30 Internet Searching (continued)  
Steven Dorsey, Zoey Breslar and Amy Oggel, Leland Initiative
- 1:30 - 2:00 Internet Searching Team Competition
- 2:00 - 2:15 Break
- 2:15 - 3:00 Brainstorming on Internet Applications for Schools, and Action Planning for an  
Academic End-User Group  
Zoey Breslar, Leland Initiative
- 3:00 - 4:00 Browsing and individualized help  
Steven Dorsey, Zoey Breslar and Amy Oggel, Leland Initiative
- 4:00 End of Training Day

**EDUCATION SITES**  
**INTERNET FOR DEVELOPMENT: APPLICATIONS AND TRAINING**  
February 1997

**Center for Educational Leadership and Technology**

**<http://www.celt.org/>**

CELT actively monitors current research and development on educational improvement and learning. Using a problem-solving approach, CELT conducts research and implementation activities directly in educational settings. Research and development programs examine a broad spectrum of education reforms efforts including curriculum development, instructional management, school restructuring, alternative assessments, program evaluation, and information retrieval.

CELT helps educators harness the power of technology to align local curricula with emerging national standards and to manage the instructional process. Research findings evolve into successful practices for management and retrieval of information to support decision making and site-based management. Research activities also focus on developing innovative practices to support a variety of restructuring initiatives, alternative assessment procedures, and program evaluation. CELT staff excels in developing curriculum plans and pilot projects to enhance teaching, learning, and management in schools, districts, and universities.

**The U.S. Department of Education**

**<http://www.ed.gov/Technology/>**

Through projects initiated under the Improving America's Schools Act and through long-term programs, the Department of Education promotes the use of technology in schools, libraries, and communities to achieve its mission of ensuring equal access to education and promoting educational excellence throughout the nation. This site includes links to reports about the uses of technology in education, projects on the Internet, resources, news articles, and legislation.

**The Education Center**

**<http://www.bev.net/education/index.html>**

This site includes links to Technology in the Classroom Projects, teaching tools and resources, research programs, home pages of public schools, and programs at colleges and universities in the United States.

**Education/Schools/Teacher Resources**

**<http://www.the-wire.com/usr/mssh/EducationSites.html>**

The following links have been compiled to assist in shortening the amount of time required to find Educationally related links. The topics include: E-mail Project Examples, Internet Conference Presentation Bookmarks, Schools on the Web, Sites for Students, Curriculum, and Issues for Teachers.

## **EdWeb**

**[http://edweb.sdsu.edu/MapServe/MapServe.cgi\\$EdWebButtonBar.map](http://edweb.sdsu.edu/MapServe/MapServe.cgi$EdWebButtonBar.map)**

Here you'll find information about San Diego State University's award winning College of Education, its programs, courses, faculty and students. The College prepares teachers, administrators, instructional designers, special educators, counselors, school psychologists, rehabilitation counselors, training specialists and multimedia developers. Includes a search engine.

## **World Bank Conference of the Global Knowledge Partnership**

**<http://www.bvx.ca/ict/gk97.htm>**

Toronto, June 22-25,1997

Co-hosted by the World Bank and the Government of Canada, sponsored with the participation of public and private partners. This site includes the program and other details about this conference.

## **GLOBE**

**<http://globe.fsl.noaa.gov/welcome.html>**

Global Learning and Observations to Benefit the Environment (GLOBE) is a worldwide network of students, teachers, and scientists working together to study and understand the global environment.

GLOBE students make a core set of environmental observations at or near their schools and report their data via the Internet. Scientists use GLOBE data in their research and provide feedback to the students to enrich their science education. Each day, images created from the GLOBE student data sets are posted on the World Wide Web, allowing students and visitors to the GLOBE web site to visualize the student environmental observations.

GLOBE science and education activities help students reach higher levels of achievement in science and math. GLOBE helps to increase the environmental awareness of all individuals while increasing our scientific understanding of the earth.

## **Kids Web: A World Wide Web Digital Library for Schoolkids**

**<http://www.npac.syr.edu/textbook/kidsweb/>**

The documents accessed from this library are on Web servers all over the world. Subjects include many links on each the arts, the sciences, social studies, fun and games, reference material, sports. This site also offers links to other digital libraries, other collections of web sites for kids, and a list of K-12 Schools on the Web. Another useful link on Kids Web is the "Classroom Internet Server Cookbook" that explains how to set up a Web server in your classroom.

## **Teachers Net -- Lesson Plan Exchange**

**<http://www.teachers.net/lessons/>**

The Lesson Plan Exchange is your opportunity to share those award winning lesson plan you've developed through the years. Internet teachers are a special group, share your secrets for teaching with the brightest teachers in the world! Can post and retrieve lesson plans.

### **Web Resources for Educators**

**<http://www.escusd.k12.ca.us/Webhelp.html>**

A Sampling of Educational Resources on the Internet. Includes Web page publishing help, technical help, the Internet and the teaching/learning process. You'll also find the link for the CyberSchool Magazine, a free monthly magazine on-line with articles covering current events, history, literature, science, educator issues, extracurricular activities and a Surfin' Librarian section with thousands of selected web sites, 12 solid pages of on-line books, author bios (developing monthly), museum selections, and lessons.

### **Yahooligans**

**<http://www.yahooligans.com/>**

Children's version of Yahoo (search engine), with fun category options on the homepage.

## **URL's for the Classroom Curriculum**

### Academy One

A topical list of educational resources

<http://www.nptn.org/cyber.serv/AOneP/>

### Academy One's Special Events Server

[http://www.nptn.org/cyber.serv/AOneP/academy\\_one/special/menu.html](http://www.nptn.org/cyber.serv/AOneP/academy_one/special/menu.html)

### Academy One's Bird Migration Project

[http://www.nptn.org/cyber.serv/AOneP/academy\\_one/special/bird-participate.html](http://www.nptn.org/cyber.serv/AOneP/academy_one/special/bird-participate.html)

### Educational Resources Listing

<http://www.december.com/cmc/info/applications-education.html>

### AskERIC Home Page

Educational Resources, Lesson Plans, Virtual Library, Eric Databases and Clearinghouses

<http://ericir.syr.edu>

### Best of the K-12 Internet Resources, InforMNs

Info on MayaQuest, KidsLink, Whitehouse searches

<gopher://informns.k12.mn.us:70/11/best-k12>

### Classroom Connect

<http://www.wentworth.com>

### Global Schoolhouse Project

<http://k12.cnidr.org/gsh/gshwelcome.html>

### U.S. Department of Education

<http://www.ed.gov/>

Web 66: A University of Minnesota project to support technology use in K-12 schools.

<http://web66.coled.umn.edu/>

### U. S. Geological Survey

<http://info.er.usgs.gov>

### CapWebb: A Guide to the U.S. Congress

<http://policy.net/capweb/congress.html>

### Welcome to the White House

<http://www.whitehouse.gov/>

### The Internet Educational Resources Guide

[http://www.dcs.aber.ac.uk/~jjw0/index\\_ht.html](http://www.dcs.aber.ac.uk/~jjw0/index_ht.html)

Kids and Parents on the Web  
<http://www.halcyon.com/ResPress/>

Help with Multimedia in the classroom  
<http://www.coe.uh.edu/~mcf/frontend.html>

Uncle Bob's Kids Page  
<http://gagme.wwa.com/~boba/kids.html>

The World Wide Web Virtual Library: Subject Catalogue  
<http://www.w3.org/hypertext/DataSources/bySubject/Overview.html>

Electronic Books at Virginia Tech  
<gopher://gopher.vt.edu:100/10/10/25>

Kidopedia  
<http://rdz.stjohns.edu/kidopedia/>

MidLink Magazine  
A collaborative Middle School electronic magazine published bimonthly  
<http://longwood.cs.ucf.edu:80/~MidLink/>

Web page on Children's Literature  
<http://www.ucalgary.ca/~dkbrown/index.html>

Ask Dr. Math - <http://forum.swarthmore.edu/>

Ask Mr. Science  
<gopher://gopher.cic.net:3005/00/classroom/dr.sci>

Daily Planet/Weather World/Weather Machine  
<http://www.atmos.uiuc.edu/>

Disability Resources, Products, Services, and Communication  
<http://dsability.com>

Welcome to the Watery World of Whales  
<http://whales.magna.com.au/home.html>

Mitsubishi Project to Sacrifice Gray Whales for Profits. What's ours could be a MINE!  
<http://www.earthisland.org/ei/immp/mmpmits.html>

## Internet Science Sites

### **The Science Resource Center**

The Science Resource Center. The Science Resource Center was established in 1986 through the Education Division of The Cleveland Museum of Natural History.  
<http://www.cmnh.org/education/src/src.html>

### **Resource Science : K-2**

<http://www.school.discovery.com/fall96/resource/k2science.html> - size 5K - 29 Oct 96

### **Resource Science : 3-5**

<http://www.school.discovery.com/fall96/resource/35science.html>

### **Resource Science : 6-8**

<http://www.school.discovery.com/fall96/resource/68science.html>

### **Resource Science : 9-12**

<http://www.school.discovery.com/fall96/resource/912science.html>

### **Chem-4-kids**

Designed to teach basics of Chemistry to kids 5-11.  
<http://members.aol.com/chem4kids/index.html>

### **Science Learning Network**

Science resource for K-8, teachers and students.  
<http://www.sln.org>

### **Autumn Hall**

A reference for middle school science education.  
<http://users.deltanet.com/~rblough>

### **BioPharmaceutical Technology Center Institute**

Focuses on biotechnology training and education. Programs range from introductory laboratory activities for kindergartners to graduate level courses for students, faculty, and industry scientists.  
<http://www.btc.org>

### **Carnegie Science Academy**

A program that encourages high school students to take an interest in science.  
<http://csa.clpgh.org>

## Fun Links

**1) Airlines**

<http://www.shopping.fr/airlines/airlines.html>

<http://www.internet-direct.com/Resources/airlines-fast.html>

**2) ESPNet**

<http://web1.starwave.com>

**3) Movies**

<http://www.cinemachine.com/hotbot.html>

**4) Dilbert Zone**

<http://www.zdnet.com/yil/comics/dilbert.html>

**5) Travel**

[http://www.itn.net/cgi/imap/itn//nav\\_guest\\_info:?74,7](http://www.itn.net/cgi/imap/itn//nav_guest_info:?74,7)

**6) The Whitehouse**

<http://www.whitehouse.gov/WH/Welcome.html>

**7) Cooking Links**

<http://www.vivanet.com/~stevemd/lcooking.html>

## Ghana Related Links

**1) The Republic of Ghana Home Page**

<http://www.ghana.com./republic/index.html>

**2) Index of /republic/education/**

<http://www.ghana.com/republic/education/>

**3) HelpDesk : Ghana**

<http://www.dti.gov.uk/ots/country/ghana.html>

**4) Exchange in Ghana**

[http://www.isp.acad.umn.edu/study/Catalog/ISEP\(Ghana\).html](http://www.isp.acad.umn.edu/study/Catalog/ISEP(Ghana).html)

**5) Ghana International School**

<http://www.ghana.com/republic/education/gishom.html>

**6) GHANA HOME TOURS**

<http://www.gsu.edu/~finjws/emmat1.htm>

**7) AFRICA ONLINE: ABOUT GHANA**

<http://www.ghana.africaonline.com/AfricaOnline/ghana/castles.html>

**8) AFRICA ONLINE: CHAT ROOMS**

<http://www.ghana.africaonline.com/AfricaOnline/chat.html>

**10) Education in Ghana**

<http://www.ghana.com./republic/educatn.html>

**9) Poet kicks off building campaign for Ghanaian schools**

[http://www2.ncsu.edu/ncsu/stud\\_pubs/Technician/issues/dec/jul\\_19\\_1995/News/1news.html](http://www2.ncsu.edu/ncsu/stud_pubs/Technician/issues/dec/jul_19_1995/News/1news.html)

**11) Ghana Schools**

<http://www.worldwide.edu/ci/ghana/fghana.html>

**12) Ghana**

<http://parallel.park.org/Ghana/index.text.html>

**13) Ghana Home Page**

<http://www.uta.fi/%7Ecsfraw/ghana.html>

**14) Ghana Page**

[http://www.sas.upenn.edu/African\\_Studies/Country\\_Specific/Ghana.html](http://www.sas.upenn.edu/African_Studies/Country_Specific/Ghana.html)

**15) SchoolNet: A Catalyst for Transforming Education in Ghana**

[http://info.isoc.org/isoc/whatis/conferences/inet/96/proceedings/c6/c6\\_1.htm](http://info.isoc.org/isoc/whatis/conferences/inet/96/proceedings/c6/c6_1.htm)

**16) Ghana**

<http://www.nsrc.org/AFRICA/GH/country.html>

## Internet Searching Team Competition

**Instructions:** Find an Internet resource for each question below. Record the URL (location/address) of the resource you think provides the best response. The first team to complete the exercise wins.

1. Math class: converting currencies

URL: \_\_\_\_\_

2. Science class: dissecting a frog

URL: \_\_\_\_\_

3. Social Studies class: discussing religions in Ghana

URL: \_\_\_\_\_

4. English: analyzing Robert Frost poem

URL: \_\_\_\_\_

5. Lesson plan ideas for teaching weather to 3rd graders

URL: \_\_\_\_\_

6. Ideas for fundraisers your school's PTA can host

URL: \_\_\_\_\_

7. A recipe for fufu for a special day celebrating Ghanaian culture.

URL: \_\_\_\_\_

## GLOSSARY

Email Discussion Group - A forum for a group of individuals exchange information on a particular topic via email. Email discussion groups usually use mailing list technology to share information.

FAQ (Frequently Asked Questions) - A document found on the Internet that provides users with quick answers to frequently asked questions on specific questions.

Fidonet - A store-and-forward network system (that uses earlier electronic communications technology) connected to the Internet. Fidonet networks are most frequently found in Africa.

FTP (File Transfer Protocol) - A way of moving files across computer networks. Files can be transferred (or downloaded) from one computer to another. FTP sites are servers on the Internet that serve as file repositories where files are easily available for downloading.

Gateway - A system that allows smaller networks using different computer systems to connect to each other and the Internet, permitting the exchange of information across networks.

Gopher - A type of server used to share information on the Internet. Information located on Gopher servers is organized using a system of hierarchical menus and hypertext for ease of navigation. Gophers are available via email and the Web.

Home Page - The first page of a Web site that acts as an introduction and as a starting point for navigating the site.

HTML (HyperText Markup Language) - The code used to create Web pages with hypertext.

Hypertext - The highlighted and underlined text on Web pages that, when selected or clicked on with a mouse, links users to other resources , related to text within the same Web site or other Web sites.

Internet - A worldwide network of computer networks that allows people to exchange information electronically.

LISTSERV - The name of a popular commercial mailing list software. People sometimes (falsely) use "LISTSERV" interchangeably with "mailing list".

Modem - A device that connects a computer to a telephone line and permits the computer to exchange data with other computers over the telephone line.

Newsgroup - A type of electronic mail discussion group, usually covering a specific topic, that works like a traditional bulletin board. Individuals can post message and respond to specific posts if they wish.

Node - Any computer connected to a network. Typically also refers to a host computer on the Internet.

Server - A computer or program that provides services or information to another computer. For example, a Web server makes information available to other computers, these other computers use Web browsers (clients) to access to access the information.

Store-and-Forward - An email system in which electronic messages are temporarily stored at intermediate points on the Internet on their way to their final destinations; it does not permit access to the Web and other features that an interactive connection provides.

World Wide Web - The most advanced tool currently available to share information over the Internet. To use the Web, one needs a piece of software called a Web browser (i.e. Mosaic or Netscape) to easily navigate and access information in a variety of formats including graphics, video, and sound.

THE BEST SEARCH ENGINES - From Berkeley Library site :  
<http://www.ci.berkeley.ca.us/bpl/bkmk/bookmark.html>

### **Yahoo Search**

This begins as the most comprehensive subject index, but, with the addition of AltaVista turns into a search engine. Gives you several ways to refine your search on the search page. Best of all, if you don't get any Yahoo hits, or don't like what you got, there are several other search engines. As an added bonus, you get instant access to hourly news, weather, sports, and stock reports - courtesy of a Yahoo agreement with Reuter's.

### **AltaVista**

Full-text index of more than 30 million Web pages and over 14,000 news groups. A powerful and very, very fast search engine enables Web users to conduct precise searches for specific information by looking for phrases, specifying key words, using case-sensitive matches, and restricting searches to titles or other parts of a document.

### **Lycos**

A comprehensive Internet database, so use the most unique search terms you can. Allows Boolean AND and OR and can match up to 7 terms - good for synonyms or variant spellings.

### **Excite**

Reviews, Usenet news and classifieds, and headline news as well as a keyword and concept search engine. Unique feature - results grouped by sites.

### **HotBot**

Web-crawling, Usenet indexing, frill-packed searcher based on the Inktomi engine.

### **InfoSeek Guide**

Search by keyword(s), phrases for full-text articles from WWW pages, and Usenet newsgroups. A new feature allows you to narrow the search by topic area. Infoseek Ultra Has indexed the full text of over 50 million pages and is updated daily. Unique to this new search engine are automatic name recognition, no need for quotes to recognize capitalized word phrases, and all words are searched. Plain English queries work and it finds all word variants, e.g. mice will find mouse.

### **Open Text**

Gives you the choice of searching for a complete phrase, searching for groups of words using Boolean operators, or searching with proximity operators.

### **WebCrawler**

Small database, but great search engine and relevancy ranking. Good for quick searches. Also has a subject directory.

### **Internet Sleuth**

Most comprehensive of the meta search engines, indexing over 1,500 searchable databases covering a wide variety of topics. You can select up to 10 databases to search simultaneously. Good documentation on how to use it. Great for one-word searches.

**How to FTP by E-mail to Get Dr. Bob's Guide**  
From Dr. Bob's Guide "Accessing the Internet by E-mail"

Send an e-mail message to  
ftpmail@src.doc.ic.ac.uk or  
bitftp@pucc.princeton.edu

In the body of the message, write  
open rtfm.mit.edu  
chdir pub/usenet/news.answers/internet-services  
get access-via-email

You can also request the Electronic Frontier Foundation's Guide, (formerly the Big Dummy's Guide), by following the same directions as above, but in the body of the message write

open ftp.eff.org  
chdir pub/Net\_info/EFF\_Net\_Guide  
get netguide.eff

These guides give explicit directions on how to use FTP, Archie, Gopher, Veronica, Usenet, Wais, WWW, Mailing lists, Finger, etc., all by e-mail.

**Annex B**  
**Participants**

INTERNET FOR DEVELOPMENT: APPLICATIONS AND TRAINING  
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<b>Educational Institution Participants</b>	<b># of Attendees</b>
Alsya Academy	5
Morning Star School	3
Ridge Church School	5
Ridge School - Kumasi	1
Soul Clinic	3
St. Martin's School	5
University Primary and Junior Secondary School	2
Flora International	1
<b>Total:</b>	<b>25</b>

INTERNET FOR DEVELOPMENT: APPLICATIONS AND TRAINING  
February 18, 1997

<b>Educational Institution Participants</b>	<b># of Attendees</b>
Accra Academy	5
Achimota School	5
Techiman Secondary School	3
Ghana International School	2
Presbyterian Boys Senior Secondary School	4
Peace Corps	5
Delta Informatique	1
<b>Total:</b>	<b>26</b>

**Annex C**  
**Discussion Notes**

**Discussion**  
**School-to-School Partnership Training**  
**February 17, 1997**

St. Martin's--The Internet will help teachers give students updated information. Some textbooks are old and out of date. Using the Internet, in seconds one can find height of Niagara falls, or e-mail someone.

St. Martin's--Games will help small ones use mice. It is key to introduce computers to students at a young age.

St. Martin's--Introducing computers at a young age helps attract attention to the computers.

William--Mentioned a CD-ROM geography program, explained the software, how students put countries in their correct places, which helps learn to use the mouse. Afterwards they get to color.

St. Martin's, Grant--The Internet makes it easier for kids to go about practical work. Some schools lack resources, this is a good resource.

Morning Star--For adults using the Internet, we have a world of knowledge at our fingertips. Staff wants to use more, want to have In Service Training, so they can acquire more knowledge then impart it to the students.

Soul Clinic, Vincent--The Internet is a great asset every school should have. Kids will grow with the technology and will not feel left out when they go abroad. Africa has been known as the Dark Continent, always left behind the West. It is important to grasp this new knowledge so this will no longer be true. Take advantage now so later money will not have to be spent to catch up.

Morning Star--From what we saw of e-mail, kids and teachers can correspond, have penpals, share ideas with people abroad. It will teach students to write letters while learning computers as well.

Zoey--described e-mail exchange/penpal programs that other schools have done.

St. Martin's--On the negative side, How safe is it to sit so close to the computer for long periods.

St. Martin's--There is the complaint about people hooked to the TV, especially in the Western world. Playing with the Internet you get knowledge, comparatively, the Internet is more educational than the TV.

Ridge Church School--He is excited about the benefits from the Internet. Seems the Internet will benefit selected schools. Private schools can buy extra texts, while public schools cannot even afford new book, maybe not even have enough books. How are we incorporating the public schools?

St. Martin's--We have enjoyed the program, Are we going to continue?

Alsud Academy--We have just begun.

Fora Ltd, Albert--We need to get our act together before we ask folks to help us. His organization develops packages for educational institutions. There is no government act now for the SRCs (Science Resource Centers). We must develop a proposal to convince the government they have a self-sustaining program, and we need to develop a plan before we ask USAID for money. Set a model, then give the government an idea of a path to follow. Show an example.

Accra H.S.--Peter's question rephrased...Would there be a follow-up training program?

--New people need more than 1 day to catch it all.

Ridge Church--Too much information for one day. Suggest break down to smaller, clear-cut sections for more effective training.

Ridge Church-Kumasi, Katy--Feels isolated in Kumasi. Teaches primary school children with computers. Maybe only school in Kumasi with computers. Is there a network of people to share software/ideas?

Zoey--Explained Leland Initiative.

Katy--In her school, all the computers at the beginning were donated. They only began with 6 computers. You don't need to begin with 20 or 40 computers to start.

Steve Dorsey--Netscape is free to educational institutions. If there is connectivity with 1-2 schools and networking going on between schools, the school with computers could put files on floppies and share them with other schools that only have the software.

Look for partners in the private sector. The old machines from the businesses will be donated to the schools, which is good PR for the businesses.

Fora Ltd., Albert--Some ideas for ways to get started....Have a computer club, Take excursions to institutions with computers. This gives the students exposure to computers. It is a starting point so that when the school does finally get the computers, the kids have been around them already.

Laura Brodrick--She and Zoey met with the mayor of Accra. He is very interested in seeing schools in Accra get connected to the Internet. All you schools should lobby him.

Ridge Church--It is difficult for private schools to persuade government to put computers on curriculum, as is viewed as elitist. What is USAID doing legislatively?

Zoey--Only bringing folks together to lobby for their interests.

Ridge Church-Kumasi, Katy--You don't need to have a computers class. Use computers to teach other subjects.

What are the next steps?

Form an association, have a directory of the schools involved, have meetings.

Fora Ltd, Albert--Suggest that USAID compile a list of schools connected with their e-mail addresses. As soon as another school gets connected, they have this list.

Ridge Church-Kumasi, Katy--She would like to have reports every term on new software, ideas, etc, that the various schools are using/experimenting with.

--The Internet will keep kids off the streets.

Fora Ltd, Albert--He was an exchange student to the U.S. in 1984. That was his first contact with computers. The school he was at did not have them, the District did. The computers were rotated to all the schools in the district. This could be done here as well, you don't have to start with a lot of computers.

--Some people think computers are very expensive. Laura offered in December a computer for 900,000 cedis. There are cheap, second-hand ones out there.

Ridge Church-Kumasi, Katy--Once you get computers, get the kids on the applications right away. Don't make them learn how computers work, DOS, etc. Get them interested in computers and dispel fears, then later if they want to learn how they work, they can.

Conclusion--Laura will coordinate, there will be point people in each school, the schools will form an association, and there will be some sort of newsletter.

**Discussion**  
**School-to-School Partnership Training**  
**February 18, 1997**

Peace Corps--Wants to learn how to develop a home page for the organization he is working with.

Bill Owen--What are the names of the software we can download to do web sites?

--The workshop was useful, but time is not enough to grasp everything. It will be difficult for us to describe the Internet to our colleagues who have never seen it.

--The Internet has lots of possible resources.

--The Internet is a source of information for teaching, but we need more than today to sort through it all.

Peace Corps--It is very user-friendly. You find things by mistake.

Peace Corps, Harriet Lancaster --It is difficult to explain to someone who has never seen it.

Peace Corps--How can an organization rationalize the cost of the Internet? It is very expensive.

Bill Owen--NCS is offering free subscription to 1st 100 schools. Instructors could go and get training and practice at NCS before their school was connected.

Laura--NCS offer is for 1st 100 Internet-ready schools. Part of the Leland proposal is that people don't get training until the school is hooked up, because if they are trained before, they will forget if they don't have the opportunity to practice.

Peace Corps, Harriet Lancaster --How can we present the Internet and its benefits to school boards, etc.?

Laura--Has done presentations to school boards, will be glad to do more.

--We have seen some good things on the Internet. What if students get left alone and go into programs that aren't helpful or appropriate?

Zoey--Mentioned software programs that block certain words; option of not surfing live; Acceptable Use Policies

Steven--Filtering software

Peace Corps--What about a computer getting a virus from the Internet?

Steven--Viruses cannot be transferred by browsing. Only if you download a file, then run it.

Zoey--What are the next steps?

--Persuade the MOE to arrange for Internet connections, especially for Science Resource Centers. We should make presentations to MOE.

Zoey--Mentioned association idea from previous day.

--We need to get together and see how exactly we could use the Internet in the classroom. When we go home and sort out all we have learned today, we need to share ideas, learn from other's problems and gains, etc.

Zoey passed out the list of schools that had attended yesterday and today, Laura will be the coordinator for the first meeting, will provide the place, make the agenda. After the first meeting she will just become a member. The date for the first meeting will be Monday, March 10, 1997, 4pm at AID.

Peace Corps--What is the minimum computer requirements for a computer to have hyperlinks.

Bill Owen--Recycled 486s are being offered for a small price...

--Religious groups are bringing in higher computers, offering older ones to other groups.

## **Annex D**

### **Feedback Form and Notes**



**Feedback: February 17, 1997**  
**School-to-School Partnership Training**

1. First time using Internet?	No	3	
	Yes	19	
2. Presentations (clarity 1-5)		4 ranking	6
	Clear	5 ranking	14
		No answer	2
3. Amount of info delivered (1-5)		4 ranking	11
	Too much	5 ranking	11
4. Time to practice (1-5)	Too little	1 ranking	1
		3 ranking	9
		4 ranking	5
	Too much	5 ranking	7
5. New skills gained (1-5)		2 ranking	1
		3 ranking	2
		4 ranking	5
	Many	5 ranking	14
6. Trainers helpful (1-5)		4 ranking	1
		5 ranking	21
7. Training facilities (1-5)		3 ranking	2
		4 ranking	6
	Adequate	5 ranking	14
8. Materials and handouts helpful (1-5)		4 ranking	5
	Very	5 ranking	17

Comments:

--The training has been very helpful to me. Though this exercise is quite new to me, I was able to follow it well and have learnt a lot from it. Should there be any follow-up, I'm sure to be able to cope better with it. Thank you.

--The training was splendid. I have now been introduced to the rudiments of computer programming. I feel proud about that. Even though the workshop lasted for 7 hours, I felt as if it was just an hour's business owing to the way the facilitators handled the program. I would say Bravo for a job well executed. Finally, I would suggest that more and more people are given this opportunity to take part in this workshop. Thank you and God bless.

--I was very impressed with the training, and hope there will be other such opportunities. I

think this whole program was great.

--Very impressive and informative, educational.

--A greater amount of time to be devoted to the manipulation of the computer; A little bit of introduction to key board be done to the benefit of beginners.

--This day happen to be my first experience with computer. I'm so thrilled and I'm looking forward to learning more since my school is about and willing to be part of this programme.

--Increase the number of days since some participants have never used a computer before and the information presented is very dense.

--I would have liked to have more tutorials into computer software and studies. Some sort of education should have been given on the use of the keyboard, since some of us are completely new to computers.

--Since this training programme had been my first handling of the computer there is little that can be said. I am presently learning the terminologies of some of the commands given. But on the whole I think it's been a very good exposure to me.

--The programme needs more time to be effective. I suggest at least two days for what we did today.

--A token fee should be charged in future to enable all participants get all the materials and handouts. More computers should also be provided.

--I think that there is the need for an association as suggested then this association which will be picked each from the attended private schools and after they have had additional training with their various schools. Then they can be out to help schools which have the computers but not connected, for them to be connected.

--Assimilation of the vast information available will be better facilitated by shorted lessons of 2-3 hours spanning eg. 2-3 days. These sessions should allocate more time for practice and evaluation.

--Suggestions: Although there was time quite enough for the training, it would be necessary to recall a similar event since most of us do not have the know-how of the use of computers.

--I would like the course to be of 2 days duration. Starting from 9am to 2pm for each session.

--The training was great! Please keep it up and do this more often. Try to invite just enough participants in order not to overcrowd the PCs. Zoey was a great teacher!

--More computers should be provided for practical work. There is the need for individual participants to have copies of handouts provided. Participating schools could be made to share the cost of the paper used. A couple of meetings of this nature could be very helpful. A very successful workshop.

--There is the need for more exposure to the use of the computers. In this wise I suggest that participators should have a computer each to work with. Periodic seminars could be given to improve teachers working knowledge.

--The training has been very useful and many new skills learnt. I however think being new on computers and their use, more time should have been allotted. That is, more than a day's training could have make those of us new to computers have got much more used to it. In conclusion, I would wish that we would be given another chance to master the skills acquired.

**Feedback: February 18, 1997**  
**School-to-School Partnership Training**

1. First time using Internet?	No	4	
	Yes	15	
2. Presentations (clarity 1-5)		3 ranking	3
		4 ranking	4
	Clear	5 ranking	11
3. Amount of info delivered (1-5)		4 ranking	11
	Too much	5 ranking	8
4. Time to practice (1-5)	Too little	1 ranking	2
		2 ranking	3
		3 ranking	8
		4 ranking	4
	Too much	5 ranking	2
5. New skills gained (1-5)		3 ranking	4
		4 ranking	3
	Many	5 ranking	12
6. Trainers helpful (1-5)		3 ranking	1
		4 ranking	3
		5 ranking	15
7. Training facilities (1-5)		2 ranking	1
		3 ranking	3
		4 ranking	5
	Adequate	5 ranking	9
8. Materials and handouts helpful (1-5)		3 ranking	2
		4 ranking	7
	Very	5 ranking	8

Comments:

--Some of the materials could be circulated prior to workshop so participants have a rough idea before presentations. Helps digestion and reactions to workshop. Some interaction between participants may be useful during workshop.

--Explanation of a few computer terms would have been helpful.

--More time is needed for the training so that we can be able to explain to others to their satisfaction.

--A little more time with you on the computers will do perhaps once a week for three or four weeks, possible with some handouts on what skills are taught.

--Help participants to know each other.

--More time needed for the workshop i.e. two days/three days to give participants more time to practice what new things that have been learnt.

--I suggest that some selected schools outside greater Accra region should be invited since some of these schools have most of the facilities needed for connection to the Internet. Thanks.

--The lesson on e-mail projected on the wall was not too clear to those at the back of the room.

--Have a follow-up session when the schools actually get on-line.

--The period for the training was short and it was not possible to get as much help as desired. It would be more helpful if the step-by-step guide on how to go into various programmes can be typed out for participants.

--The time was too short. More computers are needed for every participant to be "hooked" to a computer.

--It will be helpful if computers will be more available for each participant.

--Inadequate computers hindered the progress of participants. I suggest that facilitators work with smaller groups on account of this.

--Time to practice on the computer was not adequate. Besides this, everything was excellent.

--Training was well-organized. I don't know if this is asking too much, but if we could all as it were, "be in the driver's seat," it would be nice.

--In a nutshell, this training has been very useful but I would be happy if it was extended to the university students.

--Training was quite helpful, in general. I would have liked more info. on the Leland Initiative and what that entails, specifically technical support and funding. Could have used more time on computers, and perhaps more computers given the large group.

--You should know the standard of the applicants. This is simply because some of the people may have no knowledge of either computers in general or the topic being treated. This will help you to handle everybody's shortcomings. Questions asked and answered on the computer must be treated afterwards so that those who were unable to answer on their computer will be aware of their shortcomings.

--The training period was too short and brief. I suggest the next training period should be at least three days and exhaustive. Though we appreciate the free tuition offered, it may be encouraged if participants from far away towns could be given some token honourarium. This will be a moral booster for other such schools to partake since our schools are most often in financial crises to sponsor members. Thanks for your initiative and cooperation.

**Annex E**  
**Bibliography**

## **Bibliography**

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