Making Tele-Teaching A Reality

BY SHARON WEAVER PITTMAN

“... [Education for] the Kingdom shall be taken into all the world." Although this variation from Matthew 24:14 offers a new twist on an old biblical injunction, the relationship between the gospel and education is well established. Adventist teachers have been educating for the kingdom for decades. Tele-teaching and distance learning offer exciting opportunities to expand our current visions and directives.

Distance learning in the form of correspondence study has been around a long while. Using books, manuals, workbooks, tests, and sometimes audio tapes or videocassettes, students such as those who have enrolled in Home Study International have been able to take a single course or receive degrees via the postal system.

New distance-learning technologies, often referred to as tele-teaching or tele-learning, are growing rapidly. In 1987, fewer than 10 states in the U.S. showed an interest in adopting this new educational medium. Today school districts in every state use a variety of teaching...
technologies to participate in distance learning.¹

**Tele-Teaching Defined**

Just what is tele-teaching?² It is educating via satellite, microwave, or phone line TV point-to-point communication links established between groups at two or more locations in order to provide instantaneous interchange of aural and visual information. The distance between sites can be across the ocean or continent—or just across the hall. It may take any of four modes: (1) video conferencing, which uses TV images plus sound at all locations; (2) computer conferencing, when computers at several sites are netted; (3) audio graphic conferencing, which uses two-way audio (via telephone) and visual images (via fax); and (4) audio conferencing, using telephone or radio. All these modes of communication can be distributed by satellite. This requires a large initial investment; however, it can sometimes be justified by savings in travel, lodging, and other costs over time.³

New developments in tele-teaching include fiber optics, devices that allow multiple signals to be broadcast over a single phone line, produce a clearer picture not degraded by atmospherics, and are cheaper to install and maintain than satellite communication. A second development is holography, three-dimensional images that enhance realism.⁴ Infrastructure is currently being established that will allow all TVs to be interactive. After computer chips are installed in TV sets, viewers will be able to order goods and receive services from their own homes. The Clinton Administration has spent considerable resources to encourage and develop the “Information Highway.” Via the Internet, a core component of this information super-system, individuals, businesses, and governments can communicate with one another. Internet access serves as a critical link for future tele-teaching. The universe of information currently available can expand teaching resources in a way that would have been impossible in the past.

Advances such as these offer educators exciting and challenging opportunities to expand and improve the academic arena. Several of these include the following:

**Collaboration and Excellence**

Tele-teaching offers technological options to facilitate increased cooperation and collaboration of SDA academies and colleges, as suggested by Elisabeth Wear in the April/May 1994 issue of the JOURNAL.⁴ With limited denominational educational resources, it becomes imperative that shared expertise and resources be utilized to promote the global mission of Adventist education at all levels and settings.

Academic excellence has been a hallmark of Adventist education. Tele-teaching will allow us to build on our strengths. It will allow instantaneous sharing, networking, and tele-conferencing between teachers as well as between teachers and students.

**Redefining the Definition of Learner**

One of the most exciting byproducts of adopting this technology is our opportunity to redefine what is meant by the term *student*. Learners can be students of all ages, as well as professionals opting for continuing education. Education can be a single course for a stay-at-home mom, a certification program for a paraprofessional, classroom instruction for a small, understaffed rural school, or training to professionalize lay workers in local churches. Instructional tele-media allows learners to interact with both the instructor and other distance learners.

**Global Education**

Tele-teaching can minimize geograph-
Actual Uses of Tele-Teaching

Students and professors can be linked by electronic mail over the Internet and hold debates and arguments in "virtual discussion groups" from the comfort of their dormitory rooms and offices. Each Monday morning last spring, in a public administration class at Newport University in Newport News, Virginia, the teacher posted a question relating to the weekend's reading assignment on the electronic bulletin board. Students were expected to use a modem to dial into the bulletin board and respond to the question. They also got to read the responses made by other students and to comment on them.

Students can take courses by home computer, view lectures recorded on videotape or CD-ROM disks, and learn at their own pace. A government teacher at George Mason University in Virginia last year videotaped his lectures and made them available at the library. The lectures were also broadcast on a local cable TV station. Students were required to attend discussion groups and participate in a citizenship project.

Distance-Learning Resources
Publications and Guides


Smith Bldg., 12th Floor
Albany, NY 12225 ($19)

Funding Sourcebook for Distance Learning and Educational Technology. (1993). United States Distance Learning Association P.O. Box 5129
San Ramon, CA 94583
(510) 820-5845
$50.00 with membership to USDLA


9697 East Mineral Ave.
Englewood, CO 80112
(303) 792-3111
$19.00 + $6.00 shipping

Going the Distance: A Handbook for Developing Distance Degree Programs. (1992). PBS Adult Learning Service
1320 Braddock Place
Alexandria, VA 22314
(800) 257-2576

P.O. Box 630422
Baltimore, MD 21263-0422
(703) 838-6722

Organizations
Electronic References

America Online Turner Educational Searches, Inc.
10 North Main Street
Yardley, PA 19067
(800) 344-6219
Monthly fee

Online services for teachers, students, and parents in schools or at home. This service accesses CNN Newsroom Daily Classroom and Teaching Guides, News and Idea Exchange forums, Parent/Teacher Exchange, Compton's Encyclopedia, the Online Campus, Homework Tutoring, and e-mail, software libraries, and more.

BITNET
C/O EDUCOM
1112 16th St. NW, Ste. 600
Washington, DC 20036
(202) 872-4200
Institutional Fee

Begun in 1981, BITNET was the first major network for higher education that served academics in virtually every discipline. Each institution pays for its communications link to the network, which offers database access, e-mail, bulletin boards, and conferencing. For example, SATEDU-L is a newly created discussion area especially designed for educators using satellite-based information resources.

CompuServe
5000 Arlington Center Blvd.
P.O. Box 20212
Columbus, OH 43220
(800) 848-8199

Distance Learning Resource Network (DLRN)
Far West Laboratory
730 Harrison St.
San Francisco, CA 94107-1242
(415) 241-2744
Access: Internet

Established as a clearinghouse for distance education and supported by the U.S. Department of Education, the DLRN provides information regarding programs, Star Schools, planning and evaluation resources, state and federal funding, staff, staff development teleconferences, research reports, articles, and state and federal policy.

ERIC
U.S. Department of Education
Office of Educational Research and Improvement/ERI
Washington, DC 20208-5720
(800) USE-ERIC

Access: Available on BRS, CompuServe, Dialog, Internet

ERIC is the most complete database on education, offering materials ranging from research summaries and exhaustive bibliographies to online reference and document ordering services.

The Foundation Center
79 5th Avenue
New York, NY 10003-3076
(212) 620-4230
Fees: Vary—based on level of service
Access: Dialog (800) 334-2564

The center maintains two online databases, accessible through dialog. File 26 accesses information from The Foundation Director, The National Directory of Corporate Giving, The National Data Book of Foundations, and New and Emerging Foundations. File 27 contains information from The Foundation Grants Index, proving listings of foundation grants which are added five times a year. The Associates Program offers members low-cost access, searches excited by the center's staff plus search guide and phone support.

Freemail-Free Education Mail
4021 School Road
P.O. Box 243
Bonita, CA 92023
(619) 475-4852
Fees: $60/Software Access: Local telephone lines

More than 90 bulletin board and e-mail services occupy this network created by and for teachers. The curriculum focuses on student writing. Contributors share research and classroom experience with one another or among a group.

Internet
Internet Society
1895 Preston White Drive, Ste. 100
Reston, VA 22091
(703) 620-8990; Fax: (703) 620-0913
Fees: Flat rate of $2/hr.; $20/month
Access: On the Internet
<ISOC@nrl.reston.va.us>

Started by the U.S. military and used extensive-
ly in higher education, this network connects
hundreds of thousands of computer systems,
databases, and millions of users in more than
100 countries through dedicated lines. The
Internet is low cost and provides access to vast
information, resources, and research.

**National Distance Learning Center (NDLC)**
4800 New Hartford Road
Owensboro, KY 42303
(502) 686-4555
Fees: Phone charges
The NDLC serves a public information
exchange for both producers and users of edu-
cational media. Resources include audio con-
fferences, broadcast TV programs, films, print,
slides, software, videodisk, and videotapes.
New listings are added weekly. Subject cate-
gories include adult basic-skills training, work-
place literacy, job opportunities, career develop-
ment, special education, the social sciences,
humanities, math, and more. The NDLC has
an agreement with the U.S. Department of Edu-
cation to promote programs and services avail-
able to educators.

**Prodigy**
445 Hamilton Ave.
White Plains, NY 10601
(800) 776-3449
Fees: Monthly or annual fees include unlimited
use.
Prodigy offers access to a variety of information
and services including Grolier’s electronic ency-
clopedia; stock quotes and financial informa-
tion; educational software, publications, and
games; shopping services, news services,
travel reservations and information; and topical
bulletin boards. Prodigy has a magazine-style
layout and graphics; advertising appears on
bottom of each screen.

**FUNDING POSSIBILITIES**

**Corporations and Foundations**

**Apple Computer**
Corporate Giving Program
20525 Marina Avenue, MS:38J
Cupertino, CA 95014
(408) 974-2974
Contact: Fred Silverman, Manager

**Exxon Corporation**
225 E. John W. Carpenter Freeway
Irving, TX 75062-2298
(214) 444-1104

**IBM**
2000 Purchase St.
Purchase, NY 10577
(914) 765-5284

**Heidt-Packard Company**
Philanthropic Grants
3000 Hanover St.
Palo Alto, CA 94304
(415) 857-3053

**Lilly Endowment**
2801 North Meridian St.
P.O. Box 88068
Indianapolis, IN 46208
(317) 924-5471
Contact: John M. Mutz, President

**Pew Charitable Trusts**
One Commerce Square
2005 Market Street, Suite 1700
Philadelphia, PA 19103-7017
(215) 575-9050

**Texas Instrument Foundation**
7839 Churchill Way
P.O. Box 650311, M.S 3906
Dallas, TX 75265
(214) 917-4505
Contact: Liston M. Rice, Jr., President

**Federal Government**
Office of Educational Research and
Improvement (OERI)
555 New Jersey Ave.
Washington, DC 20208-4554
(800) 424-1616
BBS: (800) 222-4922

Secretary’s Fund for Innovation in
Education (FIE)
FIRST/Fund for Innovation in Education (FIE)
(202) 219-1496
Contact: Shirley Steele

**SATELLITE HARDWARE INFORMATION**

**Adventist Communication Network**
1100 Rancho Conejo Blvd.
Newbury Park, CA 91320
(800) ACN-1119; (fax) (805) 373-7702
They will provide information about satellite
system equipment for Adventist educators.

*The information provided has been carefully
compiled and checked, but the author’s intent is
to only provide some insight on possible begin-
ing resources. This list is in no way exhaus-
tive, and information about specific resources
is subject to change.

atical barriers, making the classroom a
global, multi-site learning interchange.
Students and instructors can shatter tradi-
tional boundaries to explore and develop
understanding that enlightens and chal-
enges stereotypical thinking. In recent
years, the Internet has afforded faculty and
students opportunities to interact globally
via bulletin boards, list servers, and e-mail.
In this way, students can broaden their
“realities” to address values, ethics, and
greater understanding of the perspectives of
other nationalities and cultures. Stu-
dents are also exposed to greater ideological
diversity via the global virtual university.
This provides educators with the
opportunity to discuss our unique Advent-
ist values and mores.

International classroom-to-classroom
communication can be set up at a nomi-
cal cost. With the latest in software tech-
nologies, language translation becomes a
minimal issue.

**Cost Considerations**

Start-up costs have been a serious
concern. To participate in tele-teaching
opportunities and expand their often lim-
ited library and academic resources,
schools must have access to basic comput-
ers. New multi-media machines can be
purchased for around $1,000 and the
prices continue to drop dramatically.
While many Adventist higher education
settings now have access to mini-main-
frames and complete servers, smaller
schools will need to purchase modems and
tele-communication software to allow
access to the Internet and/or commercial
servers like CompuServe, America Online,
or Prodigy (See Electronic Resources).
These capital investments can be funded
with grants or special funding initiatives
(See Funding Resources).

Until recently, schools could not have
afforded a satellite downlink site. With
the emergence of Net ’95 and the new
evangelistic approach that the Adventist
Communication Network is sponsoring,
small, medium, and large churches are
purchasing satellite dishes, receivers, and
projectors. Hundreds of downlink sys-
tems are being installed in the United
States and internationally. With the infra-
structure in place, there would seem to be
no better time for Adventist educators to expand their vision for global learning. (For information about satellite system hardware, contact the Adventist Communication Network.)

Start-up costs for new technology are often a major concern. Educational institutions can take advantage of "soft" funding from one-time grants and donations. True innovators are always on the lookout for alternative funding sources. Suggested funding sources are provided on pages 33 and 34. Other creative funding methods can also be utilized to expand learning technologies.

As we redefine student, our schools’ financial base can be broadened to include a larger number of more diverse learners. Many colleges and universities have found that continuing education programs can be major sources of additional revenue.

While the future for technology in Adventist education is exciting indeed, the community of educators must still address many issues. Among these are preserving individual interaction and relationships, legal and ownership issues relating to the teaching materials that faculty develop, release time for faculty development, as well as social and spiritual implications for redefining pedagogy. The author hopes this article will serve as a forum for beginning discussion of these rather complex issues. If Adventist education is to remain viable into the 21st century, strategic planning, discussion, and incremental implementation must begin now.

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REFERENCES

3. Ibid., p. 220.