

# What Works in Educational Technology Volume II: Telecommunications

*George Hubbard, Ph.D.*  
*Sharon Feaster, Ph.D.*





## Acknowledgments

Although this publication focuses on educational accomplishments enabled by various forms of telecommunications in Texas schools, it must be remembered that none of these accomplishments would have been possible without the generous support of several industrial providers.

This publication recognizes three major providers: VTEL Corporation, Southwestern Bell, and GTE. Southwestern Bell (SWB) has made a major contribution by providing, over the past four years, high capacity DS3 lines at no cost to the schools being served. Four such installations are noted. Four secondary schools in the Arlington ISD are connected. Buna High School in the Buna ISD is connected to Lamar University in Beaumont. The OWLINK system, centered at Rice University, connects three schools in the Houston ISD. OWLINK also extends to two high schools in the South Texas ISD via T1 lines. In the Ysleta ISD, four high schools are connected. In addition to providing the lines, SWB has also provided the supporting equipment: monitors, camera, microphones, Elmos, and controls that make each of these four installations complete and self-contained.

GTE has made major funding grants to Texas A&M University in support of distance education in general, and math and science projects in particular. Texas A&M's Center for Distance Learning Research is financed largely by GTE grants and is housed in a building donated for that purpose by GTE. Texas A&M's GTECH project, which encourages the development of math and science projects among member school districts, is funded by another GTE grant.

The VTEL Corporation has been a major supplier of video conferencing systems within school classrooms. In addition to providing noteworthy training and support, VTEL provides systems that have gained a reputation of being reliable and "easy to use."

In addition to the three primary providers noted above, other providers are also making significant contributions to educational teleprocessing in Texas. Those to be mentioned in this volume are People's Communications, Inc. in Quitman, Texas; ETEX Cellular Co., Inc. in Gilmer, Texas; Dell City Telephone Cooperative in Dell City, Texas; Century Telephone Enterprises, Inc. in San Marcos, Texas; and Muenster Telephone Co. in Muenster, Texas.

## Preface

This document is a follow-on to TCET's popular *What Works in Educational Technology* publication of 1995. While that document presented a broad survey of a variety of successful educational technology projects, this document will concentrate on successes with various telecommunications projects. Telecommunications in its various forms has long been considered expensive, and it has been beset with numerous technical problems. In its earlier stages, it was considered almost exclusively as a means of delivering a teacher's lecture to students in distant locations. Preparation and presentation by the teacher had to be significantly different from that of the traditional classroom presentation, and a large degree of teacher reluctance was experienced.

But educational telecommunications is beginning to come of age. Educators are realizing a variety of application areas in addition to just delivering long distance instruction. Expenses are being reduced, especially when a number of school districts establish consortiums and share expenses. Telephone companies are becoming more cooperative, and in some cases aggressive, in assisting these consortiums.

Therefore, it seems appropriate to collect into one volume, a survey of some of the successful telecommunications projects throughout Texas. The emphasis of these projects will be on distance learning, professional development, and administrative conferencing. Hopefully this volume can serve as a status report of the consortiums currently in place as well as a sampling of other telecommunications projects within individual school districts or within single schools.

# Contents

Acknowledgments

Preface

## 1. Introduction

1.1	The Concept of Distance Education .....	1
1.2	Historical Development .....	2
1.3	Categorizing Distance Education .....	3
1.4	Educational Telecommunications .....	3
1.5	Criteria for Determining Success .....	4

## 2. Distance Education

2.1	Introduction .....	7
2.2	Sharing Teachers .....	8
	Distance Teaching	
	World Geography at Arlington ISD	
	The Rice University OWLink System	
	Dual-Credit Courses	
	Buna ISD - Lamar University	
	The Creating Connections Project	
	Other Dual-Credit Examples	
2.3	Guest Lecturers and Special Presentations .....	12
	Interactive Lectures	
	OWLink Lesson Plans	
	Dramatic Productions	
2.4	Research via the Internet .....	16
	Beaumont ISD	
	South Texas ISD	
	Dell City ISD	
2.5	Joint Projects .....	18
	Mexican - American Culture	
	Cultural Connections	
	Tracking an Election	

## 3. Professional Development

3.1	Introduction .....	23
3.2	University Sponsored Projects .....	24
	TWU's Masters Degree Program for Speech-Language Pathology	
	The GTECH Project at Texas A&M	

3.3	Intra- and Inter-District Programs .....	31
	The STAR Project at Southlake Carroll ISD	
	The Creating Connections Project	
3.4	Informal Staff Development .....	36
	Virtual Teachers' Lounge	
3.5	CPDT Training of Teacher Interns .....	37
	The SWT-CPDT Teacher Education Program	
	The PARTNERS Project	
	TEA3MWORK — University of Houston - Clear Lake	
<b>4.</b>	<b>School Administration</b>	
4.1	Introduction .....	45
4.2	Administrative Uses .....	45
	Applying for TIF Grants	
	Financial Justification	
	Student Information	
	Faculty Communications	
4.3	State-wide Networks in Texas .....	47
<b>5.</b>	<b>Planning for Success</b>	
5.1	Introduction .....	49
5.2	The Creating Connections Consortium .....	49
	Planning	
	Training	
5.3	Lessons Learned from Nine Technology-Enriched Schools .....	52
<b>6.</b>	<b>What Works: National Studies</b>	
6.1	Introduction .....	55
6.2	Computers and Classrooms: The Status of Technology in U.S. Schools .....	55
6.3	The Role of Online Communications in Schools: A National Study .....	63
6.4	Report on the Effectiveness of Technology in Schools, '95 - '96 .....	65
6.5	Connecting K-12 Schools to the Information Highway .....	66
	Funding	
	Development Opportunities	
	Courseware	