



Technology in Its Place

John F. LeBaron and Catherine Collier,
Editors

Sponsored by
The International Network
of Principals' Centers

Technology in Its Place

Successful Technology Infusion
in Schools



JOSSEY-BASS

A Wiley Company

San Francisco


Copyright © 2001 by Jossey-Bass Inc., 350 Sansome Street, San Francisco, California 94104.

Jossey-Bass is a registered trademark of Jossey-Bass Inc., A Wiley Company.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 750-4744. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158-0012, (212) 850-6011, fax (212) 850-6008, e-mail: permreq@wiley.com.

Jossey-Bass books and products are available through most bookstores. To contact Jossey-Bass directly, call (888) 378-2537, fax to (800) 605-2665, or visit our website at www.josseybass.com.

Substantial discounts on bulk quantities of Jossey-Bass books are available to corporations, professional associations, and other organizations. For details and discount information, contact the special sales department at Jossey-Bass.

 Manufactured in the United States of America on Lyons Falls Turin Book. This paper is acid-free and 100 percent totally chlorine-free.

Library of Congress Cataloging-in-Publication Data

Technology in its place : successful technology infusion in schools / John F. LeBaron, Catherine Collier, editors.

p. cm.

Includes index.

ISBN 0-7879-5682-1 (alk. paper)

1. Technological innovations. 2. Educational technology. I.

LeBaron, John, date. II. Collier, Catherine. III. Title.

T173.8 .T4238 2001

371.33'4—dc21

00-012693

FIRST EDITION

PB Printing

10 9 8 7 6 5 4 3 2 1

The Jossey-Bass Education Series

For Anna
1908–2000

Contents

Preface	xi
The International Network of Principals' Centers	xvii
The Editors	xix
The Contributors	xxi
Part One: Curriculum Integration	1
1. Using Technology to Enhance Student Inquiry Debbie Abilock	3
2. Curriculum Planning for Technology-Rich Instruction John F. LeBaron	17
3. Technology for Urban Schools: Gaps and Challenges Eileen M. Gallagher	31
4. Technology and Learning: Getting the Story Out Sanna Järvelä	43
Part Two: Leadership Strategies	59
5. Staff Development for Technology Integration in the Classroom Catherine Collier	61
6. International On-Line Learning: Cultural Issues for Educators Jyrki Pulkkinen and Merja Ruotsalainen	73

7.	The Computers Are Here! Now What Does the Principal Do? George S. Perry Jr. and Ronald J. Areglado	87
8.	Building Public Support: The Politics of Technology Transformation Isa Kaftal Zimmerman	99
9.	Strategies for Creating Successful Corporate Partnerships John Richards	113
10.	Using Technology Appropriately: Policy, Leadership, and Ethics Linda de Lyon Friel	125
	Index	139

Preface

This is a book for educators concerned with the improvement of teaching and learning through technology. It offers a multifaceted vision of both the contribution that technology can make to effective schooling and the creative alignment of leadership and practice with theory and research. It examines practice from viewpoints ranging from global initiatives in international online learning to the local concerns of a single classroom. Written from the backdrop of educational reform, this book presents a comprehensive view of technology in schooling, addressing concerns of administration, strategic planning, curricular integration, and staff development.

The chapter authors offer successful track records of leadership and practice in the curricular integration of technology. Some of them are veteran contributors to this field. Others have more recently gained recognition for significant accomplishments in a rather short period of time. Each of them has a story to tell from practice, research, or a combination of the two. We hope that their stories add to the intellectual inventories of our readers as they seek to enhance learning and teaching with the unprecedented opportunities offered by technology.

Technology, Leadership, and the Curriculum

The successful infusion of technology into education depends on effective leadership and good sense about school culture. Leadership

emerges from many different venues. This collection of perspectives is therefore aimed at the following groups:

- Teachers, higher education faculty, and professional developers
- School building and district administrators
- Technology coordinators and library media specialists
- Parents and community citizens
- Policymakers, elected and appointed
- Businesspeople and others in the private sector

Educational technology professional associations have accelerated dialogue with other leading groups of educators. For example, in cooperation with the U.S. Department of Education and other public and private entities, the International Society for Technology in Education (ISTE) has produced an extensive set of educational technology standards across the curriculum for PK–12 students (Thomas, Bitter, Kelly, and Knezek, 2000). ISTE has also collaborated with the National Council for Accreditation of Teacher Education (1997) to implement technology standards in teacher preparation, urging teacher preparation programs to infuse technology throughout their curricula robustly and energetically. Other major associations have taken similar cooperative initiatives. This book aims to further the cross-disciplinary conversation.

The chapters are organized into two parts, dealing respectively with curriculum and leadership. This is not to suggest a necessary division between these two concerns; they are really two sides of the same coin. We treat curriculum first because we believe that curriculum, above everything else, should drive technology integration. Too often peripheral considerations (the need to appear up-to-date, one-time budgetary windfalls, external grant opportunities, pure politics) have prompted costly technology investments, often without the necessary leadership, professional development, and curricular vision. The disastrous consequences are disheartening because we now know enough about educational leadership to avoid them.

Part One: Curriculum and Pedagogy: The Wellsprings of Leadership

The chapters in Part One deal with issues directly related to classroom implementation. Debbie Abilock examines two classroom projects in research-supported learning and teaching, one focusing on global warming and the other on turn-of-the-century history. In both cases, deep, ongoing collaboration between a library media specialist and classroom teachers spawned curricula that guided student researchers to construct knowledge collectively about the topics under discussion. Abilock highlights the important contribution of global, networked computing to the realization of curricular aims.

Project-centered curriculum of this nature requires careful, theory-based planning. John LeBaron addresses this matter in Chapter Two. He applies Senge's (1990) ideas about learning organizations, weaving discussion about the planning process with commonly accepted principles of curriculum development for technology-rich environments. In the same spirit, in Chapter Three, Eileen Gallagher tackles the challenge of planning for technology in a large, urban district (Chicago). Gallagher depicts systematic links across the urban requirements of funding, infrastructure, professional development, teacher resistance, and community support.

Rounding out the conversation about curriculum, Sanna Järvelä offers practical and theoretical guidance in Chapter Four to readers struggling with the challenge of informing a skeptical public about the pedagogical value of technology investment. Based on naturalistic modes of inquiry, Järvelä offers concrete examples of qualitative research that have generated persuasive evidence about the power of appropriately planned technology applications to promote learning.

Part Two: Leadership Strategies

Recognizing the essential contribution of professional development to technology integration, Catherine Collier launches Part Two. Focusing on the real-life approaches to the curricular integration of

technology, Collier probes the theory and practice of professional development, using school-based cases. In Chapter Six, Jyrki Pulkkinen and Merja Ruotsalainen approach Collier's observations from the different perspective of cross-cultural international networks for teacher education. They examine the challenges of Internet-based learning across several countries of the European Union, drawing on the experience of networked teacher training courses that have served adult practitioners from Finland, Italy, the Netherlands, and the United Kingdom.

Effective leadership demands the reconciliation of parochial interests, as diverse stakeholders in and beyond the school building advance their particular agendas in the endeavor to infuse technology. George Perry and Ronald Areglado address the responsibilities of principals as planners, leaders, and managers in Chapter Seven. Applying Kotter's (1996) eight-step process for organizational change, Perry and Areglado urge principals to assume activist curricular roles in promoting the best teaching their faculty can produce, individually and collectively. In Chapter Eight, Isa Zimmerman examines political strategies undertaken in two school systems under her superintendency in a perpetual struggle for change. She describes a systematic strategy for advocacy and change in local, state, and national forums.

Building on Zimmerman's discussion, John Richards reflects in Chapter Nine on the delicate nature of partnerships between schools and the private sector. While endorsing the value of vision-anchored partnerships, Richards suggests that schools need to approach potential collaborators from a strong visionary and moral base, knowing what they want to accomplish, why, and why it is important. The moral question also concerns Linda Friel. Believing in education rather than regulation or sanction as the best foundation for adherence to school policy on appropriate technology use, in Chapter Ten she addresses the roles and responsibilities of teachers, librarians, technologists, and administrators in ensuring ethical, safe student practice. In the context of research and theory, Friel offers practical counsel to educational practitioners in

formulating and carrying out policy on intellectual freedom and acceptable technology practice.

Acknowledgments

Assembly of a book such as this takes much effort and patience on the part of authors, editors, and publisher. We are deeply grateful for the time taken not only to develop manuscripts but also for prompt and cheerful responses to what must have seemed like an incessant stream of editorial questions and suggestions. Representing Jossey-Bass, Christie Hakim consistently rendered timely help and wise counsel. We are grateful for the cooperation and good humor so generously offered by everyone associated with this project.

February 2001

John F. LeBaron
 North Chelmsford, Massachusetts
 Catherine Collier
 Shirley, Massachusetts

References

- Kotter, J. P. *Leading Change*. Boston: Harvard Business School Press, 1996.
- National Council for Accreditation of Teacher Education. *Technology and the New Professional Teacher: Preparing for the 21st Century Classroom*. 1997. [<http://www.ncate.org/accred/projects/tech/tech-21.htm>].
- Senge, P. *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday, 1990.
- Thomas, L., Bitter, G., Kelly, M. G., and Knezek, D. *National Educational Technology Standards for Students: Connecting Curriculum and Technology*. Eugene, Ore.: International Society for Technology in Education, 2000.

The International Network of Principals' Centers

The International Network of Principals' Centers sponsors periodicals and other publications as part of its commitment to strengthening leadership at the individual school level through professional development for leaders. Back issues of *New Directions for School Leadership*, formerly published as a quarterly journal, are now available, and upcoming publications will be available from Jossey-Bass. The network has a membership of principals' centers, academics, and practitioners in the United States and overseas and is open to all groups and institutions committed to the growth of school leaders and the improvement of schools. It currently functions primarily as an information exchange and support system for member centers in their efforts to work directly with school leaders in their communities. The network's office is in the Principals' Center at the Harvard Graduate School of Education.

The network offers the following services:

- The International Directory of Principals' Centers features member centers, listing contact persons, center activities, program references, and evaluation instruments.
- The Annual Conversation takes place every spring; members meet for seminars and workshops, to listen to speakers, and to initiate discussions that will continue throughout the year.
- *Newsnotes*, the network's quarterly newsletter, informs members about programs, conferences, workshops, and special-interest items.

- *Reflections*, the annual journal, includes articles by principals, staff developers, university educators, and principals' center staff members.

For further information, please contact:

International Network of Principals' Centers
Harvard Graduate School of Education
8 Story Street, Lower Level
Cambridge, MA 02138
(617) 495-9812
(617) 495-5900 (Fax)
inpce@gse.harvard.edu

The Editors

John F. LeBaron is professor of education at the University of Massachusetts Lowell. He has authored or coauthored several books, including *A Travel Agent in Cyber School: The Internet and the Library Media Program* (1997, Libraries Unlimited). In 1998–1999, LeBaron undertook a year-long Fulbright scholarship in educational technology at the University of Oulu in Finland. In 2001, he was awarded the Gulbenkian visiting professorship in education at the University of Aveiro in Portugal. His e-mail address is John_Lebaron@uml.edu.

Catherine Collier is a technology specialist with the Shirley, Massachusetts, School District and adjunct professor of technology in education for Lesley University in Cambridge, Massachusetts. She coauthored *A Travel Agent in Cyber School: The Internet and the Library Media Program*. Collier is a member of the Association for the Advancement of Computing in Education, the Association for Supervision and Curriculum Development, and the International Society for Technology in Education. She may be reached at catherine.collier@gte.net.

The Contributors

Debbie Abilock is editor of *Knowledge Quest*, published by the American Association of School Librarians. She also serves as curriculum, library, technology coordinator at the Nueva School, Hillsborough, California. She may be contacted at debbie@nuevaschool.org.

Ronald J. Areglado is principal of the Potowomut School in Warwick, Rhode Island. He is former associate executive director of programs for the National Association of Elementary School Principals. His e-mail address is rid25482@ride.ri.net.

Linda de Lyon Friel is supervisor of media services for the Methuen Public Schools, Methuen, Massachusetts, and coauthor, with John LeBaron and Catherine Collier, of *A Travel Agent in Cyber School: The Internet and the Library Media Program* (1997). She can be reached by e-mail at lafriel@methuen.k12.ma.us.

Eileen M. Gallagher is an administrative technology coordinator for the Department of Learning Technologies, Chicago Public Schools. She also teaches graduate-level classes in instructional technology for Northern Illinois University, DeKalb, Illinois, and for Lesley University, Cambridge, Massachusetts. Her e-mail address is egallagher@kiwi.dep.anl.gov.

Sanna Järvelä is a professor on the Faculty of Education at Finland's University of Oulu, where she directs the Learning and Technol-

ogy research group. Widely published, she specializes in qualitative research methodology. She has been honored with a research fellowship award by the Finnish Science Academy and may be reached at sjarvela@ktk.oulu.fi.

George S. Perry Jr. is director of the consulting group Perry and Associates and is senior consultant with the Panasonic Foundation. He may be contacted at perry123@cape.com.

Jyrki Pulkkinen serves as manager of the Educational Technology Research Unit at the University of Oulu in Finland. He has worked as a manager and a researcher in several networked teacher education projects within the European Union and is representing Finland as an educational technology consultant in South Africa. He may be reached at jyrki.pulkkinen@oulu.fi.

John Richards is senior vice president and general manager of Turner Learning, the educational division of Turner Broadcasting System. Turner Learning is responsible for outreach for the networks and for the daily, commercial-free, cable news program *CNN NEWSROOM*. Prior to joining Turner, he managed the Educational Technologies Department at Bolt Beranek & Newman in Cambridge, Massachusetts. He has taught at several colleges and universities. His e-mail address is John.Richards@turner.com.

Merja Ruotsalainen is a researcher and teacher in the Educational Technology Research Unit at the University of Oulu. She has designed and taught several internationally networked courses for educators, and specializes in student support systems for on-line learning environments. She may be reached at mruotsal@ktk.oulu.fi.

Isa Kaftal Zimmerman is division director of the Technology in Education Program at Lesley University in Cambridge, Massachusetts. She is the former superintendent of the Acton and the Acton-

Boxborough Regional Public School systems in Massachusetts, as well as a former high school principal and teacher. She actively participates in a variety of educational leadership groups in Massachusetts, throughout the United States, and internationally. Her e-mail address is ikzimmer@mail.lesley.edu.

Technology in Its Place

