October 1981

Volume 39, Number 1

TEACHING THINKING SKILLS

6 Symposium: Educational Implications of Recent Brain Research
  Robert Sylwester, Jeannie S. Chall, M. C. Wittrock, and Leslie A. Hart

18 Intelligence as Thinking and Learning Skills  Robert J. Sternberg

21 Thoughts on Teaching Thinking  Raymond S. Nickerson

26 Programs for Teaching Thinking  Nancy J. Vye and John D. Bransford

29 Teaching for Intelligent Behavior  Arthur L. Costa

34 The Educational Need to Re-Invent the Wheel  William E. Doll, Jr.

36 Concept Learning: How to Make It Happen in the Classroom  Sydelle D. Ehrenberg

44 Thinking at Piaget's Stage of Formal Operations  Mary Carol Day

47 Matching Curriculum to Students' Cognitive Levels  Esther Fusco

48 Staff Development for Building Student Thinking Skills  Carolyn Sue Hughes

52 Expanding Thinking Through Consciousness Education  Thomas B. Roberts

OTHER TOPICS

57 Laid Back or On His Back: An Ineffective Way to Supervise
  Stephen B. Fisher and Barry C. Jentz

60 On Reading, Writing, and Computers: A Conversation with John Henry Martin
  Ron Brandt

66 Why We Went to Parents Night  Ned S. Hubbell

67 Second Grade Revisited  Marsha L. Love

68 Research Synthesis on Problem Solving  Jack Lochhead

DEPARTMENTS

Overview  Ron Brandt

Letters

The Way I See It  Conrad F. Toepfer, Jr.

News Notes  Robert C. McKean and Bob L. Taylor

Research on Teaching  Janet Flegg

The Future  Christopher J. Dede and Arthur J. Lewis

Women in Education  Nancy S. Olson

Learning Styles  Rita Dunn and Nancy Reckinger

Book Reviews
Here's what you get as an ASCD Comprehensive Member... for just $48 per year!

- **EDUCATIONAL LEADERSHIP**—8 issues of this Educational Press Association award-winning journal published monthly, October–May.
- **ASCD YEARBOOK**—durable volume on a timely topic, written by outstanding educators.
- **NEW BOOKLETS**—on current educational issues. (Comprehensive members receive free 4 new booklets during a year’s membership. Regular members may purchase these new booklets.)
- **ASCD UPDATE**—issues of this informative newsletter are published periodically.
- **ANNUAL CONFERENCE**—4-day meeting held each March offering Special Sessions, Action Labs, and speakers of national renown. Reduced registration fee to all members.
- **NATIONAL CURRICULUM STUDY INSTITUTES**—special limited attendance programs held throughout the nation. Reduced fees for members.
- **PUBLICATIONS**—many titles available at low prices.
- **AUDIO CASSETTES**—“live” recordings of more than 80 addresses and presentations by leaders in education available at modest prices.
- **LOW-COST INSURANCE**—including professional liability, term life, and accident benefits, at low group rates.

---

**ASCD Membership Form**

Check enclosed, payable to ASCD. [ ] Bill me. (U.S. addresses only)

**Name**

**Title, Institution**

**Street address**

**City** State **ZIP**

**COMPREHENSIVE MEMBERSHIP** provides all ASCD benefits. Annual dues: $48.00.

**REGULAR MEMBERSHIP**—all ASCD benefits except new booklets. Annual dues: $38.00.

**SUBSCRIPTION TO EDUCATIONAL LEADERSHIP**—eight issues monthly, October–May. $18.00.

Canadian and foreign add $4 per year for Comprehensive, $3 per year for Regular. $2 per year for subscriptions.

Complete form and mail to:

Association for Supervision and Curriculum Development
225 N. Washington St.
Alexandria, VA 22314

Member dues include a subscription to Educational Leadership. $18 of dues is designated for a subscription to this journal.

---

**Association for Supervision and Curriculum Development**

**Executive Council**

LUCILLE JORDAN, Associate State Superintendent of Georgia Schools, Office of Instructional Services, State Department of Education, Atlanta, Georgia / President

O. L. DAVIS, JR., Professor of Curriculum and Instruction, College of Education, University of Texas, Austin / President-Elect

BARBARA D. DAVIS, Professor of Elementary Education, University of North Carolina, Chapel Hill / Past President

GWYN BROWNLEE, Director, Instructional Services Department, Education Service Center Region 10, Richardson, Texas

ARTHUR L. COSTA, Professor of Education, Department of Educational Administration, University of South Florida, Tampa / Executive Council Member

RAYMOND E. HENDEE, Superintendent, Park Ridge School District #64, Park Ridge, Illinois

ALICE VIVIAN HOUSTON, Director of Curriculum Services Department, Oklahoma City Public Schools, Oklahoma City, Oklahoma

CAROLYN SUE HUGHES, Consultant for Elementary Education, Parma City Schools, Parma, Ohio

STUART C. RANKIN, Assistant Superintendent, Office of Research and Evaluation, Detroit Public Schools, Detroit, Michigan

PHIL CLAYTON ROBINSON, Principal, Clarence B. Sabbath School, River Rouge Public Schools, River Rouge, Michigan

MAZIE R. SOLEM, Curriculum Coordinator/Instructional Planning Center, Sioux Falls Public Schools, Sioux Falls, South Dakota

RONDAL STODGILL, Deputy Superintendent of Instruction, St. Louis Public Schools, St. Louis, Missouri

BOB L. TAYLOR, Professor of Education, School of Education, University of Colorado, Boulder

---

**Headquarters Staff**

GORDON CAWELTI / Executive Director

RONALD S. BRANDT / Executive Editor

RUTH T. LONG / Associate Director

ROOSEVELT RATLIEFF / Associate Director

KATHY L. SCHAUB / Assistant Director for Program and Research

JOHN BRALOVE / Business Manager

SARAH ARLINGTON, JOAN BEAUDIN, GAYLE CROSSLAND, ANNE DRESCH, DORILO DICKERSON, ANITA FITZPATRICK, DANNY JONES, JO JONES, TEOLA T. JONES, JACQUELYN LAYTON, INDI B. MADAN, AGATHA DEBORAH MADDOX, CLAIRE M. MERRID, FRANCES MINDEL, NANCY C. MODRACK, NANCY S. OLSON, ROBERT SHANNON, CAROLYN SHELL, BETSEY THOMAS, BARBARA J. THOMPSON, ANITA WILEY, COLETTE A. WILLIAMS

---

**Publications Committee**

YVONNE TOMEI-MCKITTRICK, Elementary Supervisor, Hillsboro County Public Schools, Tampa, Florida / Chairperson

MILDRED N. NESS, Principal, James P. B. Duffy School, No. 12, Rochester, New York

VINCENT R. ROGERS, Professor, University of Connecticut, Storrs, Connecticut

THOMAS SERGIOVANNI, Professor, University of Illinois, Urbana, Illinois

LEONARD VALVERDE, Chairman, Department of Educational Administration, University of Texas, Austin, Texas

BENJAMIN WILLIAMS, Associate Superintendent for Education, Little Rock Public Schools, Little Rock, Arkansas

---

**Educational Leadership** is published monthly, October through May, by the Association for Supervision and Curriculum Development, 225 N. Washington Street, Alexandria, Virginia 22314. ASCD editorial office and advertising: (703) 549-9110. No remuneration is offered for contributions. Subscription price: $18.00 a year. Single copies, $3.00. Association memberships: Regular ($18.00); Associate ($18.00); and Life ($240.00). Member of the Educational Association of America. Contents listed in Educational Index. Microfilm and xerographic copies are available. For information about these copies, write to University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48106. Second class postage paid at Alexandria, Virginia, and at additional mailing offices.

Printed by Sauls Lithograph Company, Inc., Washington, D.C.

DUPLICATING. Educators are authorized to reproduce a single article from this publication without making a written request provided that 1) duplication is for educational purposes only, 2) a charge is made available without charge beyond the cost of reproduction; and 3) each copy includes full citation of the source. Permission to reproduce more than one article will be granted under the same conditions to those who make a reasonable request in writing.

This authorization does not apply to materials, if any, for which ASCD doesn't hold the copyright. Any such materials are so identified.