TABLE OF CONTENTS

SELECTED ABSTRACTS

Special Interest Group for Academic Computing (SIGAC)

INIGO, A NEW AUTHORIZING SYSTEM
Gerdy C. ten Bruggencate, and Eelco F. Laagland
University of Twente.................................................................2

CONNECTING PEOPLE AND TECHNOLOGY THROUGH OPEN-ACCESS COMPUTING FACILITY DESIGN FACTORS
Jeanette S. Cates, Ph.D., Instructional Development ...........................................2

CONNECTIONS TO RESOURCES FOR INSTRUCTIONAL COMPUTING IN HIGHER EDUCATION
Carol A. Dwyer, Penn State University.........................................................3

AN OPEN-STRUCTURED INTERACTIVE TEST AND EXERCISE MANAGEMENT SYSTEM
Pieter Jansen, Eugène v.d. Kamp, and Roy Natadarma
Delft University of Technology....................................................................4

THE GOLDEN ARCHES OF ACADEMIC COMPUTING
Dr. Kenneth L. Modesitt, Western Kentucky University.................................5

A DEPARTMENT GETS A LAN, OR "YOU'RE NOT GOING TO DO THAT TO MY COMPUTER!"
Donald Scherer, Bowling Green State University............................................6

INTEGRATED LEARNING SYSTEMS AND ADULT BASIC SKILLS
Robin Taylor, PhD, New Century Education Corporation..................................7

RESEARCH PROJECT "INTERACTIVE TECHNOLOGY IN HIGHER TECHNICAL EDUCATION"
Jarmo Viteli, University of Tampere, Finland................................................7

ASSESSMENT OF COMPUTER-BASED INSTRUCTION (CBI) IN CRIMINAL JUSTICE EDUCATION AND TRAINING PROGRAMS
James B. Wells, North Georgia College
Ben Layne, Claudia Flowers, Georgia State University....................................8

Special Interest Group for Computer-Based Training (SIGCBT)

ERGONOMIC CBT
Kay Bonham, and Linda Randolph, Goal Systems International..........................10

COMPUTER-BASED TRAINING MODEL FOR A GEOGRAPHIC INFORMATION SYSTEM
Debra A. Brinegar, U.S. Army Construction Engineering Research Laboratory...............10

AUTOMATED INSTRUCTIONAL DESIGN AT MEDIASHARE INC.
Ann Marie Canfield, Utah State University......................................................11
OUTGROWING THE COTTAGE DEVELOPING COMPUTER-BASED TRAINING ON A LARGE SCALE
Robert C. Fratini, AT&T National Product Training Center ........................................... 11

COCKPIT RESOURCE MANAGEMENT TRAINING MULTIMEDIA SITUATED LEARNING
Hilary McLellan, Kansas State University ........................................................................... 12

THE REMOTE MECHANICAL "C" LINE COURSE A DESKTOP SIMULATION SOLUTION
M.M. Prather, Westinghouse Hanford Company
K.R. Nuttall, Boise Cascade Corporation ........................................................................... 12

DELIVERING CBT TO YOUR USERS DESIGN AND IMPLEMENTATION ISSUES FOR
SUCCESSFUL LEARNING
Adele Suchinsky, U.S. General Accounting Office
Catherine C. McMahon, WORDPRO, Inc. ........................................................................... 13

WHAT DO WE REALLY KNOW ABOUT SMALL GROUP CBT
Theodore M. Shlechter, Army Research Institute ................................................................ 13

THE MANAGEMENT CHALLENGE-CBT AT THE COMMONWEALTH BANK OF AUSTRALIA
R J Spence, Commonwealth Bank of Australia ................................................................... 14

USING A WORD PROCESSOR TO DEVELOP COMPUTER-BASED INSTRUCTION
Kevin Stall, Systems, Requirements, and Services Associates, Inc. ................................... 14

OBJECT-ORIENTED PROGRAMMING A PASSING FAD OR THE COMMING
OF A NEW GENERATION
Jennifer A. Chen-Troester, Utah State University
Zhongmin Li, University of Utah ...................................................................................... 14

COMPUTER-BASED INSTRUCTION (CBI) MODELS
Peter J. Rizza Jr., Princeton Center for Education Services, Inc.
Volkert Balk, University of Amsterdam
Franklin C. Roberts, Western Washington Univ. .................................................................. 15

Special Interest Group for Elementary, Secondary, and Junior College (ELSECJC)

LINKING TELECOMMUNICATIONS AND PROBLEM SOLVING
Dr. Barbara Brehm, Eastern Montana College ..................................................................... 17

ELECTRONICALLY ACCESSING MULTIPLE RESOURCES NETWORKING ISSUES IN MACINTOSH
AND MS-DOS ENVIRONMENTS
Dr. Mary Ann Hindes, The University of Georgia ............................................................... 17

COMPUTER-BASED SPACE PROGRAMMING TECHNIQUES TOOLS FOR THE EDUCATOR
AND THE PRACTITIONER
Thomas L. Houser, The University of Tennessee, Knoxville ............................................... 18

GETTING TEACHERS INVOLVED WITH TECHNOLOGY
Annette Lamb, University of Toledo ................................................................................... 19

MAKING GEOGRAPHY FUN WITH HYPERCARD
Annette Lamb, University of Toledo ................................................................................... 19

TECHNOLOGY IN THE CURRICULUM ISSUES AND QUESTIONS FOR THE 90'S
Dr. Deborah Little, University of Illinois ............................................................................. 20
AN INSTRUCTIONAL MERGER HYPERCARD AND THE INTEGRATIVE TEACHING MODEL
Carolyn M. Massie, Larry G. Volk, University of Virginia.........................................................20

COMPUTER-ENHANCED LEARNING ENVIRONMENTS AND THE REINVENTION OF SCHOOL
Dr. Kyle L. Peck, The Pennsylvania State University.................................................................21

COMPUTERS AND TEACHER EDUCATION A GRADUATE CURRICULUM DESIGN
James P. Randall, Ed. D., Widener University..................................................................................21

INFORMATICA - A COURSE IN ALGORITHMIC THINKING
Peter Rizza & Volkert Balk, Princeton Center for Education Services, Inc.,
Alexei Semenov, Institute for New Technology..............................................................................22

PERSONALIZED EDUCATION MANAGEMENT SYSTEM - PEMS
Peter J. Rizza Jr., and Karl G. Kelly, Princeton Center for Education Services, Inc.
Marilyn Martin, Norris Education Innovations, Inc.................................................................23

TRAINING TRACKER
Peter J. Rizza Jr., and Karl G. Kelly, Princeton Center for Education Services, Inc.........................24

A CONTROLLED STUDY ON DEVELOPMENTAL WRITERS AT THE COMPUTER
Gary Vaughn, and Rex Easley, University of Cincinnati...............................................................25

SCIENCE INSTRUCTION ON GLOBAL ELECTRONIC NETWORKS
Michael L. Waugh, and James A. Levin, University of Illinois at Urbana-Champaign.....................25

Special Interest Group for Emerging Technologies (ETSIG)

REALIZING THE POTENTIAL OF A LEVEL ONE VIDEODISC-BASED SCIENCE PROGRAM
FOR ELEMENTARY CLASSROOMS A REPORT OF AN EVALUATION STUDY
Gayle V. Davidson, Ph.D., James L. Barufaldi, Ph.D., and Lowell J. Bethel, Ph.D.,
The University of Texas at Austin.....................................................................................................27

OBJECT ORIENTATION AND THE DEVELOPMENT OF COMPUTER-BASED
INSTRUCTIONAL SYSTEMS
Eric Hansen, Educational Testing Service.........................................................................................27

THE APPLICATION OF HUMAN FACTORS TO THE ID PROCESSES FOR
COMPUTER-BASED PROGRAMS
Hueyching Janice Jih and Michael A. Orey,
The University of Georgia..................................................................................................................28

HYPERMEDIA IN THE INFORMATION DISSEMINATION PROCESS
Ellen N. Piety, U. S. Army Construction Engineering Research Laboratory.....................................28

COGNITIVE OUTCOMES OF BUILDING EXPERT SYSTEMS
David H. Jonassen, University of Colorado.......................................................................................29

USER’S PERFORMANCE AND PREFERENCE ON DIFFERENT INPUT DEVICES
TOUCHSCREEN, MOUSE AND KEYBOARD
Chi-Hui Lin and Gayle V. Davidson, Ph.D.
The University of Texas at Austin......................................................................................................29

INTELLIGENT TUTORING WITH HYPERTALK WHO NEEDS LISP OR PROLOG
Wayne A. Nelson, and Safiah Md.Yusof,
Southern Illinois University at Edwardsville...................................................................................29
WHY AUTHORING TOOLS SHOULD BE OBJECT-ORIENTED
Joseph Seeley, University of Illinois ................................................................. 30

THE COLORADO LITERACY NETWORK HOW AN ELECTRONIC COMMUNICATION
NETWORK ENHANCES THE ADULT LITERACY PROGRAMS
Eric E. Smith, University of Northern Colorado
Jennifer G. Rudd, EG&G, Rocky Flats ............................................................. 30

OBJECT-ORIENTED PROGRAMMING A PASSING FAD OR THE COMMING OF
A NEW GENERATION
Jennifer A. Chen-Troester, Utah State University
Zhongmin Li, University of Utah ................................................................. 30

A CASE STUDY IN DISTANCE DELIVERY
Michael Yacci, Rochester Institute of Technology ........................................... 31

Special Interest Group for Education of the Handicapped (SIGHAN)
ADAPTING HYPERCARD STACKS TO PROVIDE SPEECH OUTPUT FOR READERS
WITH DISABILITIES
Wren M. Bump, Texas A&M University ........................................................... 33

ALLOWING STUDENTS WITH PHYSICAL DISABILITIES ACCESS TO COMPUTERS
THROUGH ADAPTIVE TECHNOLOGY
Wren M. Bump, Texas A&M University ........................................................... 33

Special Interest Group for Health Education (HESIG)
THE IMPACT OF COMPUTER-BASED LEARNING ON EXAMINATION PERFORMANCE
IN MEDICAL BIOCHEMISTRY
James Baggott, Ph.D and Sharon E. Dennis, M.S.,
Hahnemann University ...................................................................................... 35

THE DEVELOPMENT OF A REPURPOSING VIDEODISC WORKSHOP FOR HEALTH
PROFESSIONAL FACULTY

HEALTHY PEOPLE 2000 OPPORTUNITIES FOR COMMUNICATION TECHNOLOGY
IN DISEASE PREVENTION AND HEALTH PROMOTION
Mary Jo Deering, Ph.D., Office of Disease Prevention and Health Promotion .......................................................... 36

DEVELOPMENT OF COMPUTER EDUCATION IN HEALTH SCIENCE
(NURSING) SOME AUSTRALIAN EXPERIENCES
Dr. Nitya Karmakar, University of Western Sydney (Hawkesbury) .................... 36

THE NEGLECTED ROLE OF EVALUATION INSTRUCTIONAL PRODUCT SELECTION
Marjorie A. Kuenz, Ph.D., National Library of Medicine .................................. 37

INTERACTIVE VIDEODISC FOR NURSING EDUCATION VITAL SIGNS
Donna Larson, Grand Valley State University
Barbara Breedon, Fuld Institute for Technology in Nursing Education .................. 37

A DATABASE AND STUDY OF AUTHORING SYSTEM TECHNOLOGY
Craig Locatis, National Library of Medicine .................................................... 38
AN INTERACTIVE TECHNOLOGY SAMPLER VIDEODISC IN THE HEALTH SCIENCES
Craig Locatis, National Library of Medicine ................................................................. 38

A COMPUTER-BASED APPROACH TO REINFORCING COMMON PRINCIPLES IN BIOLOGY
Harold Modell, National Resource for Computers in Life Science Education .................. 39

AN OSMOTIC PRESSURE TUTORIAL THAT REINFORCES REASONING SKILLS
Harold Modell, National Resource for Computers in Life Science Education .................. 39

CAI A LEARNER VIEWPOINT
L. Q. Thede, Kent State University .................................................................................... 40

PANTHERS AND LIONS TRANSFORMING COMPETITION TO COLLABORATION
Karen S. Wedge, University of Pittsburgh
Dee McGonigle, Pennsylvania State University ............................................................... 40

Special Interest Group for Home Economics (HOMECE)

BUYING CLOTHING SERVICES, SUPPLIES, NOTIONS, EQUIPMENT AND PATTERNS BY MAIL
Bette Jo Dedic, University of Kentucky ............................................................................. 42

HOME ECONOMICS, SOCIAL STUDIES, AND HEALTH TEACHERS' ATTITUDES TOWARD AND USE OF COMPUTERS FOR INSTRUCTION
Chryssoula Drizou, and Cheryl Hausafus, Iowa State University ..................................... 42

COMPUTER-BASED SPACE PROGRAMMING TECHNIQUES TOOLS FOR THE EDUCATOR AND THE PRACTITIONER
Thomas L. Houser, The University of Tennessee ............................................................... 43

ELUCIDATING TIME MANAGEMENT ACCOUNTABILITY THROUGH SPREADSHEET ANALYSES
Thomas L. Houser, The University of Tennessee ............................................................... 43

REPACKAGING ONE KEY TO COST-EFFECTIVE TRAINING
Elizabeth Miller, Control Data Corporation, Cheryl Shankman, Hughes Training Systems .......................................................................................................................... 44

A QUALITATIVE ANALYSIS OF STUDENT TEACHERS' CLASSROOM MANAGEMENT TECHNIQUES
Cecelia Thompson and Dale E. Thompson
The University of Arkansas ............................................................................................... 44

CADD IN THREE DIMENSIONS EXAMINATION AS DESIGN TOOLS FOR INTERIOR DESIGN PROGRAMS
Susan Winchip, Illinois State University ............................................................................ 45

Special Interest Group for HyperMedia Education (HYPERSIG)

TOOLBOOK—SPEAKING FROM EXPERIENCE
Lorinda Brader, Penn State University .............................................................................. 47

IMPLEMENTING HYPERMEDIA CONCEPTS WITH HYPERTALK
R. Scott Grabinger, University of Colorado at Denver ...................................................... 47

HYPERTEXT LEARNING ENVIRONMENTS AND COMPUTER-BASED DRILLS A COMPARISON OF CONTRASTING DESIGNS FOR THE ACQUISITION OF COMPLEX KNOWLEDGE
Michael J. Jacobson, University of Illinois ....................................................................... 48
MEDICAL HYPERTEXT BASED UPON COGNITIVE FLEXIBILITY THEORY
David H. Jonassen, University of Colorado at Denver

BRIDGING THE GAP BETWEEN INSTRUCTIONAL STRATEGIES AND COMPUTER COURSEWARE
Annette Lamb, University of Toledo

MAKING GEOGRAPHY FUN WITH HYPERCARD
Annette Lamb, University of Toledo

HYPERTEXT DELIVERY SYSTEMS
Carol B. MacKnight, University of Massachusetts
Santosh Balagopalan, Mentor Graphics

INSTRUCTIONAL APPLICATIONS OF HYPERMEDIA FUNCTIONAL REQUIREMENTS AND RESEARCH ISSUES
Ok-choon Park, U.S. Army Research Institute

DESIGN, DEVELOPMENT AND TESTING OF A CONTEXTUALIZED COMPUTER ENVIRONMENT FOR SPANISH LANGUAGE ACQUISITION INTELLIGENT TUTORING WITH HYPERTALK WHO NEEDS LISP OR PROLOG?
Wayne A. Nelson, and Safiah Md.Yusof, Southern Illinois University at Edwardsville

THE INSTRUCTIONAL DESIGN PROCESS A HYPERCARD MODEL
Lawrence C. Ragan, Penn State University

Special Interest Group for Interactive Video-Audio (SIGIVA)

FULD INSTITUTE FOR TECHNOLOGY IN NURSING EDUCATION "THERAPEUTIC COMMUNICATION"
Barbara Breedon, Fuld Institute for Technology in Nursing Education

A COMPUTER MANAGEMENT SYSTEM FOR PATIENT SIMULATIONS
Lynn Johnson, The University of Iowa

USE OF INTERACTIVE VIDEO IN PERFORMANCE APPRAISAL RATER TRAINING
William A. Kealy, Texas A&M University

INTERACTIVE VIDEODISC FOR NURSING EDUCATION VITAL SIGNS
Donna Larson, Grand Valley State University
Barbara Breedon, Fuld Institute for Technology in Nursing Education

AN INTERACTIVE VIDEODISC APPLICATION ON SKILL ANALYSIS OF THE FREESTYLE AND BUTTERFLY IN SWIMMING
Kirk E. Mathias, Arkansas State University
Eric E. Smith, University of Northern Colorado

AN INTERACTIVE VIDEODISC INSTRUCTIONAL DESIGN STUDY IN TEACHING SKILL ANALYSIS
Kirk E. Mathias, and Thomas M. Adams II Arkansas State University
Eric E. Smith, University of Northern Colorado

INTERACTIVE VIDEO AS A RESEARCH TOOL IN EDUCATION
Kirk E. Mathias, Arkansas State University
Eric E. Smith, University of Northern Colorado

AN INTERACTIVE VIDEO LESSON PLANNING PROJECT FOR TEACHER EDUCATION
Dr. Charlotte Scherer, Bowling Green State University
BEHIND THE SCENES THE MAKING OF A GENERIC RESEARCH VIDEODISC
Eileen Schroeder, Marilyn Arnone, Richard Kenny, and
Thomas Moats, Syracuse University

NEW INTERACTIVE VIDEO DISPLAY CAPABILITIES BASING DECISIONS ON DESIGN GOALS
Dr. David Taylor, Virginia Tech

INTERACTIVE VIDEO AT THE MOTOROLA MUSEUM OF ELECTRONICS
Paul Wangemann, Motorola Inc.

Special Interest Group for Management Issues (MISIG)
COST-OF-QUALITY PRINCIPLES RELATED TO COMPUTER-BASED TRAINING
Robert Callan, AT&T Corporate Education and Training

PLANNING FORMATIVE EVALUATION IN DESIGNING COMPUTER ASSISTED INSTRUCTION
Lih-Juan ChanLin, and James R. Okey, The University of Georgia

OUTGROWING THE COTTAGE DEVELOPING COMPUTER-BASED TRAINING ON A LARGE SCALE
Robert C. Fratini, AT&T National Product Training Center

THE MANAGEMENT CHALLENGE - CBT AT THE COMMONWEALTH BANK OF AUSTRALIA
R. J. Spence

Special Interest Group for Music Instruction (MUSIC)
THE USE OF INTERACTIVE VIDEODISC IN ACQUIRING LESSON PLANNING COMPETENCIES FOR
MUSIC TEACHING
Mary Leglar, University of Georgia

ASSESSING MUSICAL ABILITY WITH COMPUTERIZED ADAPTIVE TESTS
Walter P. Vispoel, The University of Iowa

SELF-ADAPTED TESTING A NEW METHOD FOR ASSESSING MUSICAL ABILITY
Walter P. Vispoel, The University of Iowa

Special Interest Group for PILOT (SIGPILOT)
SHORTCUTS TO CREATING LEARNING MODULES
Marianne Yoder, Northern Arizona University

Special Interest Group for PLATO Users' Group (PUG)
NEW FEATURES OF THE CYBIS SYSTEM
Dean Christensen, Control Data Corporation

COURSEWARE EVALUATION
C. B. Dunnagan, Control Data Corporation

AUTHORING UTILITIES THE HIDDEN POTENTIAL OF PLATO
Robert Elmore, Control Data Corp.
REPACKAGING ONE KEY TO COST-EFFECTIVE TRAINING
Elizabeth Miller, Control Data Corporation
Cheryl Shankman, Hughes Training Systems ........................................... 71

USING A WORD PROCESSOR TO DEVELOP COMPUTER-BASED INSTRUCTION
Kevin Stall ............................................................. 71

Special Interest Group for Theory and Research (SIGTAR)

THE EFFECTS OF VARIED LEVELS OF INTERACTIVITY IN IV ON LEARNING AND SOCIAL PROCESSES
Margaret L. Bailey, Arthur Anderson & Company
Dr. Jack Byars, Kansas State University .................................................. 73

COMMUNICATION STRUCTURE ON AN ELECTRONIC TEACHERS’ NETWORK
John R. Broholm, University of Kansas .................................................. 74

THE EFFECTS OF COMPUTER SELF-EFFICACY ON DIRECTION-FOLLOWING BEHAVIOR IN COMPUTER ASSISTED INSTRUCTION
Randal D. Carlson, and Barbara L. Grabowski,
The Pennsylvania State University ......................................................... 75

CENTER FOR INNOVATIVE INSTRUCTIONAL TECHNOLOGY
Sine Farrell, PhD, U. S. Army Construction Engineering Research Laboratory .................................................. 76

VIEWER PERCEPTIONS MODEL SCREENS VS. ACTUAL SCREENS
R. Scott Grabinger, University of Colorado at Denver ................................ 76

A PROPOSED TAXONOMY FOR THE DESIGN, STUDY, AND EVALUATION OF INSTRUCTIONAL SYSTEMS
Dale Y. Hoskisson, Valley City State University ........................................ 77

THE FORMATION AND IMPACT OF USERS’ MENTAL MODELS IN HUMAN-COMPUTER INTERACTION
Hueyching Janice Jih and Thomas C. Reeves
The University of Georgia ........................................................................... 77

COGNITIVE OUTCOMES OF BUILDING EXPERT SYSTEMS
David H. Jonassen University of Colorado ............................................... 78

SECOND GENERATION INSTRUCTIONAL DESIGN
Mark Jones and Dave Merrill
Utah State University .................................................................................. 78

THE GENERATIVE EFFECTS OF GRAPHIC ORGANIZERS WITH COMPUTER-BASED INTERACTIVE VIDEO
Richard F. Kenny, Syracuse University
Barbara L. Grabowski, Pennsylvania State University ................................. 79

AN INTERACTIVE VIDEODISC INSTRUCTIONAL DESIGN STUDY IN TEACHING SKILL ANALYSIS
Kirk E. Mathias, and Thomas M. Adams II, Arkansas State University
Eric E. Smith, University of Northern Colorado ......................................... 79

THE EFFECTS OF STRUCTURE AIDS ON LEVEL OF LEARNING AND EFFICIENCY IN AN INSTRUCTIONAL HYPERMEDIA ENVIRONMENT
Timothy L. Phillips, Ginger Watson, and Jay Cook,
The University of Iowa .................................................................................. 80
THE EFFECTS OF GENERATIVE CONCEPT-MAP STRATEGY IN CBI
Lawrence C. Ragan, Penn State University ................................................................. 80

DEVELOPMENT OF AN INTELLIGENT TUTORING SYSTEM IN ACCOUNTING
Thomas H. Rowley, Georgia State University
Michael A. Orey, The University of Georgia ............................................................. 81

EXAMINING EDUCATIONAL SOFTWARE FROM A CULTURAL PERSPECTIVE
Penelope Semrau, Ph.D., California State University, Los Angeles .......................... 81

ADAPTIVE ON-LINE HELP FOR CONCEPT DEVELOPMENT
Doris S. Shaw, L. Michael Golish, Julie L. Webster, and Der-Shung Yang,
U.S. Army Construction Engineering Research Lab .................................................. 82

DESIGNING MICROCOMPUTER-BASED INSTRUCTIONAL SIMULATIONS IMPLICATIONS FROM
COGNITIVE PSYCHOLOGY
Richard A. Thurman and Joseph S. Mattoon,
Air Force, Armstrong Laboratory ................................................................................ 82

CBT APPLICATIONS OF KOLB'S EXPERIMENTAL LEARNING THEORY
Michael Yacci, Rochester Institute of Technology ...................................................... 83

Special Interest Group for Telecommunications (TELESIG)

THE UTRECHT TELECAI-PROJECT
Drs. J.P. Bakker, Hogeschool Utrecht (Utrecht Polytechnic) ........................................ 85

COMPUTER COMMUNICATION-FOUR INNOVATIVE PROJECTS AT PENN STATE UNIVERSITY
Barbara Grabowski, Penn State University ................................................................. 85

SCIENCE INSTRUCTION ON GLOBAL ELECTRONIC NETWORKS
Michael L. Waugh, and James A. Levin,
University of Illinois at Urbana-Champaign ............................................................. 86
SELECTED FORMAL PAPERS

Special Interest Group for Academic Computing (SIGAC)

COMPUTER AIDED TESTING MAKES STUDENTS WORK REGULARLY
M.W.J.W. Dijkman, R.H.A. Staal,
Delft University of Technology .................................................. 88

Special Interest Group for Computer-Based Training (SIGCBT)

SETTING THE SCENE SIMULATIONS IN CBT
Linda Blumstein and Rich Boyer
The Emdictum Group, Inc ............................................................. 93

QUANTITATIVE AND QUALITATIVE EVALUATION IN FLIGHT TRAINING
Tom Downey, Boeing Commercial Airplane Group .......................... 97

COURSEWARE DESIGN IN THE TOOLKIT AGE
Jesse M. Heines, Ed.D., University of Massachusetts ........................ 103

COCKPIT RESOURCE MANAGEMENT TRAINING MULTIMEDIA SITUATED LEARNING
Hilary McLellan, Kansas State University ...................................... 112

THE DEVELOPMENT OF AN INTERACTIVE SUPPORT SYSTEM SHELL
Edward L. Michelini, Manhattan College ...................................... 119

AN INTRODUCTION TO INSTRUCTIONAL TRANSACTION THEORY
M. David Merrill, Utah State University ........................................ 123

THE COURSEWARE DEVELOPMENT LABORATORY AT UTAH STATE UNIVERSITY
Scott K. Schwab, Zhongmin Li, and J. Steven Soulier,
Utah State University .................................................................. 134

META-CBT A SUCCESSFUL MODEL FOR ALTERNATIVE CBT STRATEGIES?
Rod Sims, University of Technology, Sydney ................................. 139

Special Interest Group for Elementary, Secondary, and Junior College (ELSECJC)

PRESCRIPTIONS IN READING COMPUTER-ASSISTED INSTRUCTION READING VERSUS WRITING
Roy B. Clariana, EG&G, Rocky Flats Inc ........................................ 148

AN INSTRUCTIONAL MERGER HYPERCARD AND THE INTEGRATIVE TEACHING MODEL
Carolyn M. Massle, and Larry G. Volk,
University of Virginia ................................................................ 155

TWO DISTINCT CONCEPTS OF GROUPWARE
Jerome A. Popp, Southern Illinois University .................................. 160

METHOD AND FREQUENCY FOR USE OF A COMPUTER-BASED DRILL IN THE LEARNING OF VERBAL INFORMATION
Sr. Del Marie Rysavy, St. Cloud State University ............................... 166
A SYSTEMATIC EDUCATIONAL COURSEWARE DEVELOPMENT MODEL FOR DEVELOPING COUNTRIES
Tengku Shahrom, and Thomas C. Reeves, Ph.D.,
The University of Georgia

THE ROLE OF THE COMPUTER IN SCIENCE FAIR PROJECTS CURRENT STATUS AND POTENTIAL
Mary S. Trainor Los Alamos National Laboratory

Special Interest Group for Emerging Technologies (ETSIG)

CAI IN LEARNING ENGLISH AS A SECOND LANGUAGE (ESL)
Lih-Juan ChanLin, The University of Georgia

MAGNETO-OPTICAL DISK AS A CD-ROM DEVELOPMENT TOOL
F. Kay Houghton and Allen L. Luettgen,
Los Alamos National Laboratory

COGNITIVE OUTCOMES OF BUILDING EXPERT SYSTEMS
David H. Jonassen, University of Colorado

DESIGN, DEVELOPMENT AND TESTING OF A CONTEXTUALIZED COMPUTER ENVIRONMENT FOR SPANISH LANGUAGE ACQUISITION
Wayne A. Nelson, and Saifah Md. Yusof, Southern Illinois University at Edwardsville
Kathleen A. Bueno, St. Louis University

THE COACHING NETWORK A MODEL FOR CONDUCTING AND MANAGING LEARNING
Jennifer G. Smith MA, E G & G Rocky Flats
Eric Smith Ph.D., University of Colorado

Special Interest Group for Health Education (HESIG)

THE IMPACT OF COMPUTER BASED LEARNING ON EXAMINATION PERFORMANCE IN MEDICAL BIOCHEMISTRY
James Baggott, Ph.D. and Sharon E. Dennis, M.S.,
Hahnemann University

A COMPUTER MANAGEMENT SYSTEM FOR PATIENT SIMULATIONS
Lynn Johnson, The University of Iowa

DEVELOPMENT OF COMPUTER EDUCATION IN HEALTH SCIENCE (NURSING)
Nitya L. Karmakar, University of Western Sydney

Special Interest Group for Home Economics (HOMEC)

CAD INSTRUCTION IN INTERIOR DESIGN PROGRAMS
Stephanie Clemons, M.S., Colorado State University
Joan McLain-Kark, Ph.D., Virginia Polytechnic Institute

INTEGRATING COMPUTER AIDED DESIGN AND DRAFTING (CADD) INTO INTERIOR, APPAREL AND DISPLAY DESIGN COURSES
Diane M. Davis, Valparaiso University

ELUCIDATING TIME MANAGEMENT ACCOUNTABILITY THROUGH SPREADSHEET ANALYSES
Thomas L. Houser, The University of Tennessee
Special Interest Group for HyperMedia Education (HYPERSIG)

MEDICAL HYPERTEXT BASED UPON COGNITIVE FLEXIBILITY THEORY
David H. Jonassen, University of Colorado at Denver .......................................................... 274

A NEW COMPUTER-BASED LEARNING ENVIRONMENT THE HYPERMEDIA-ASSISTED KNOWLEDGE CONSTRUCTION SYSTEM
William Lidwell, Thomas Troutman, and David B. Palumbo, University of Houston, Clear Lake .......................................................... 279

HYPERTEXT DELIVERY SYSTEMS
Carol B. MacKnight, University of Massachusetts
Santosh Balagopalan, Mentor Graphics .......................................................... 289

Special Interest Group for Interactive Video-Audio (SIGIVA)

DIGITAL AUDIO IN MULTIMEDIA INSTRUCTION
Ann Barron, University of South Florida .......................................................... 295

HIGHLY INTERACTIVE PROGRAMS WITH VIDEO FOR LEARNING LANGUAGES
Rika Yoshii, Ph.D., Alastair Milne and Alfred Bork, Ph.D.
University of California .......................................................... 300

ACCESSING DATABASES FROM AN IBM INFOWINDOW COMPUTER-BASED VIDEO INSTRUCTION PROGRAM USING "C" LANGUAGE PROCEDURES
C. Michael Hassett and Elizabeth A. Unger, Kansas State University
Mary R. Hassett, Fort Hays State University .......................................................... 308

COMPUTER-ASSISTED LANGUAGE LEARNING (CALL) THROUGH THE LENS OF ELABORATION THEORY
Anita M. Knisbacher, U.S. Government Department of Defense .......................................................... 317

DEVELOPING AN INTERACTIVE MULTIMEDIA NETWORK FOR DISTANCE EDUCATION
Dent M. Rhodes and David Doss, Illinois State University .......................................................... 328

MICAL AN INTERACTIVE MULTIMEDIA RESEARCH PROJECT IN COMPUTER SCIENCE
Dr. D. V. Pigford and Dr. Greg Baur
Western Kentucky University .......................................................... 333

Special Interest Group for PILOT (SIGPILOT)

AUTHORING SOFTWARE SELECTION
Michael Collins, Memorial University of Newfoundland .......................................................... 338

DEVELOPING CBT COURSES FOR END-USER TRAINING
Douglas MacKenzie, DMC Ltd .......................................................... 345

Special Interest Group for PLATO Users' Group (PUG)

I NEED SOME HELP
Leslie Smith .......................................................... 353
WORKING ALONE VS. WORKING IN TEAMS DURING COMPUTER BASED INSTRUCTION IN PUBLIC SPEAKING
Michael R. Hemphill Ph.D., Christina C. Standerfer, University of Arkansas at Little Rock......356

GENERATIVE PROCESSING OF STRUCTURAL KNOWLEDGE IN HYPERTEXT
David H. Jonassen, University of Colorado ..................................................................................360

EXTERNAL EVALUATION OF POSIT
Michael A. Orey, The University of Georgia ...............................................................................365

KNOWLEDGE ACQUISITION AND KNOWLEDGE REPRESENTATION IN INTELLIGENT COMPUTER-AIDED INSTRUCTION
Joo-sung Park, and Michael Orey,
The University of Georgia ...........................................................................................................374

INTEGRATING COGNITIVE THEORY INTO GAGNE'S INSTRUCTIONAL EVENTS
Michael A. Orey, James R. Okey, Marshall G. Jones and Linda S. Stanley
The University of Georgia ..............................................................................................................377

LEARNER CONTROL AND MOTIVATION IN COMPUTER-BASED INSTRUCTION
Joo-sung Park, Thomas C. Reeves, Ph.D.
The University of Georgia .............................................................................................................383

TECHNOLOGY USING TEACHERS ARE THEY A DIFFERENT TYPE?
Carolyn Rude-Parkins, Joseph M. Petrosko, Jr. University of Louisville
Ivan Baugh, Jefferson County Public Schools................................................................................394

COMPUTER-BASED COGNITIVE APPRENTICESHIPS AN EXAMPLE FROM WEATHER FORECASTING
Brent Wilson, University of Colorado
Brian Heckman, UCAR/COMET
Sherwood Wang, University of Colorado........................................................................................402

A MODEL FOR THE USE OF TELECOMMUNICATIONS TECHNOLOGY AND MULTI-MEDIA SYSTEMS TO CREATE REAL-TIME MULTIPLE-USER COMPUTER-BASED LEARNING ENVIRONMENTS
Dr. Greg Baur Western Kentucky University ..................................................................................408

PREPNET CONNECTING PENNSYLVANIA AND BEYOND
Blair R. Bernhardt, and Denise LePag
Lehigh University ............................................................................................................................412

SPEAKERS ADDRESSES ..................................................................................................................416