What Is the Ideal Literacy Tool?

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Learning, Design, and Technology
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Abstract

To examine and assess the effectiveness of learning how to read with the LeapFrog™ LeapPad.™ Using ethnography and assessments of reading outcomes as our primary methodologies we hope to observe the LeapPad™ in different classroom settings. We will take our findings and along with further studies of learning and teaching with technology, propose a new design of how it should be used in the classroom to maximize its benefits. Components of this design will include an automated assessment system, curriculum and a potential redesign of the LeapPad™
Learning Problem

How to optimize the learning and teaching of reading in the K-2 classroom using technology.

How can we teach the basic skills of reading in a more engaging, individualized way, while not over burdening teachers and alleviating their stress. Computers have been touted as the solution, but, research has shown little evidence that they have improved reading skills. Moreover, they may not be the ideal solution for the K-2 reading classroom. An alternative technology such as LeapFrog’s LeapPad™ may be more effective at accomplishing these goals.

Outcome goals that prove effectiveness

1. Individualized instruction
2. Maximize teacher effectiveness
3. Engage students in learning
4. Increase learner outcomes

Background

Given the emphasis placed on technology and the resources spent on wiring and equipping schools with computers, little tangible evidence showing increased learner outcomes, a more efficient and painless experience for the teachers, and effectively individualized instruction exists. The promises of technology in enhancing learning in the schools remains unfulfilled.

Reading is one of the key indicators of measuring future success. This is one of the cornerstones in the “Information Age.” Yet most technology has failed to enhance learning (Reader Rabbit, etc.). Therefore, we have come up with a few questions that have guided our focus:

Can technology fulfill its promises?
What’s the best technology used currently in classrooms and why?
What’s the value of individualized instruction?
How can technology be seamlessly integrated into schools?
How do we instill a love of learning in students?
How do you teach to multiple literacies?
In other words, “Where’s the learning?”

Below are four goals that are indicators of successfully combining instruction and technology:

Individualized instruction – One of the main goals of teaching is to understand the prior knowledge of the student and tailor content that is appropriate, engaging and effective in bringing about further learning. Given the fact that classrooms consist of upwards of 30 students and one teacher, the probability that such individualization can occur is slim. Technology holds the potential to easily and effectively make this objective a reality.

Maximize teacher effectiveness – Given the time constraints put upon teachers throughout their classroom day, little time exists to do much beyond the prescribed curriculum. The introduction of computers in the classroom have only added to the stress of the teachers’ life. Not only do teachers have to worry about meeting high expectations, but with technology in the classrooms,
they also have to become Information Technology specialists. A new approach with technology in the classrooms is needed.

Engage students in learning – Typical classroom instruction has not always engaged students in the learning process. With students at different levels, unified instruction does not benefit most learners. Technology held the promise of engaging and personalizing learning. However, most educational technology has focused too much on entertaining learners and not on teaching them. In order for technology to benefit education, it must be focused on the learning.

Increase learner outcomes – Given the cultural and political climate of the nation, learner outcomes have become the predominant indicator of school success. Increased school funding often correlates with improved student test scores and meeting state standards. While technology promised to meet these goals, few concrete results prove any significant gains. If technology is going to be seen as effective in schools, it must play a role in showing increased outcomes.

An examination of what currently exists using our four goals

We propose to analyze the limitations to teaching reading in both the traditional manner and with currently available computer based technology. We then will analyze the effectiveness of the LeapFrog™ Leap Into Literacy curriculum, specifically focusing on the LeapPad™ device. With this information, we will design the optimal classroom use for the LeapPad™ as a teaching tool for individualizing the teaching of reading.

Why is the LeapPad™ good?

The LeapPad™ is ideal for the K-2 classroom because, unlike the computer, it is easy to use, acts and feels like a book, and allows for exploration. Below are some of its benefits:

- Phonics
- Multimedia
- Tactile
- Assessment
- Fun
- Exploratory
- Adaptability
- Repeat

What we propose to design and why is it better than what exists

Currently, while the LeapPad™ and other LeapFrog™ products exist in a unified package for teaching reading, the full potential of individualizing instruction and utilizing assessment technologies has not materialized. We plan to examine and create a classroom learning environment that takes advantage of the LeapPad™ and LeapTrack™ technologies to ensure that all students are actively engaged in learning to read.

What we propose to design

After initially studying the needs of teachers and students and surveying the currently available technologies that exist, it is clear that most computer-based programs fall short in meeting the
needs of both teachers and students. With this information in mind, we decided to look beyond the computer to other commercially available technologies. The LeapFrog™ LeapPad™ is a viable product to achieve the goals that we set forth. The LeapPad™, while successful as a consumer product, has limitations in a classroom setting. We intend to transform the LeapPad™ into the most effective teaching tool in the K-2 classroom. In doing so, we will design the optimal usage for the LeapPad™ in the K-2 reading class. This will include designing a curriculum, teacher information system, assessment tools and potentially the product itself, to make the LeapPad™ highly effective for teaching reading.

**Our design process**

Ultimately, we will be employing a user centered, goal directed design approach similar to that proposed by Alan Cooper. By thoroughly surveying teachers and students on their needs and goals, and examining literature on the promises and failures of technology in the classroom, we will draw up an ideal scenario for the most successful implementation of our project. Given the diversity of schools and the differing needs of teachers and students, multiple scenarios may exist. In this phase we will also examine the usage of the Leap Into Literacy program in schools and gauge the effectiveness of them.

Once the scenario(s) has been created, we will consult with experts in curricular design, pedagogy and assessment to ensure that all the issues have been considered. Next we will create the curriculum, based on state standards and other locally referenced scopes and sequences. Along with creating the curriculum, we will create the assessment tools and teacher information system that will be crucial to this project.

As much as possible, we will continuously test our ideas and designs with teachers, students and other stakeholders. We feel that by keeping the needs of the intended users constantly in mind and in practice, we will create a system that will meet and hopefully exceed our intended goals.

In order to effectively evaluate our design, along with teachers and students, we will consult with knowledgeable curriculum, learning and technology experts, such as Robert Calfee, Denise Pope, Decker Walker, Michael Kamil, Dan Schwartz, Ann Cunningham, Paul Melmud, Mike Milone and others as we deem necessary.

While the timeframe of our project may not allow us to fully examine the lasting effectiveness of our design, we hope to be able to have a system in place that will be able to prove worthwhile within one academic year. We hope that we will be able to see an effective outcome in the near future.
Deliverables

Throughout our design process we will produce a variety of deliverables of various media. We intend to produce a written report on our assessment of the LeapPad™ and it’s effectiveness of teaching reading. After assessing the Leap Into Literacy curriculum, we will create a newly revised curriculum and teacher’s guide. This will mostly likely be a written document with supplemental materials. We will also create a design document for the automated assessment and teacher tools component. Lastly we will build a prototype based on our design document.

Timeline

**February - Research**
1 - Design document due
9 - Choose three research sites (Keys, Escondido, and X) & approved
12 - Begin observations at our sites
24 - Design Approval
28 - Literature Review Completed

X = School using Leap Into Literacy curriculum

**March - Analysis**
1 - Continue observations
8 - Leap Into Literacy observation
23 - Written assessment of LeapPad™
31 - End observations at sites (Total = 30 hours)

**April - Design/Redesign**
1 - Begin Storyboarding
8 - Curriculum Redesign
23 - Design Document
30 - Prototype Finished

**May - Assessment**
1 - User Test
8 - Redesign Completed
11 - Work on Presentations and Papers
18 - Expo
25 - Final Project Due
Budget

Materials
LeapPads - $100
LeapPad Books - $100
Flash - $100
Miscellaneous - $100

Time/Fees
Ethnographer - 30 hours x $25/hr = $750
Curriculum Developer - 30 hours x $50/hr = 1500
Assessment Specialist - 20 hours x $50/hr = 1000
Designer - 20 hours x $75/hr = 1500

Total
Materials + Fees = $5150

Consultants

Professors
Decker Walker
Michael Kamil
Denise Pope
Dan Schwartz
Robert Calfee

LeapFrog
Ruth Nathan
Anne Cunningham
Paul Melmud
Mike Milone

Teachers
Harriet Korn, Reading Specialist - Keys School
? - Dependent upon our sites

LDT Class 2001
Special recognition to Heidi Chang, Jee Park, Tacy Trowbridge.
Bibliography


Dewey, John (1898) On Education

Dewey, John (1937) Experience and Education


Abstracts

Toys and Literacy

"Hey! Where's the Toys?" Play and Literacy in 1st Grade. Childhood Education v73 n1 p10-16 Fall 1996

Notes the differences between kindergarten and first grade in terms of children's learning styles and curriculum. Points out that play can be useful in kindergarten and also first-grade classrooms. Suggests the use of child-initiated learning centers to provide age-appropriate and individually appropriate activities. Gives examples of child-initiated centers as well as design considerations and material selection.

Providing Resources for Play. Childhood Education v69 n5 p291-92 1993

Examines evidence relating to factors that affect the quality and maturity of children's play and discusses three resources parents can readily use to enrich play: adult involvement, materials, and time. Explains parent roles of play initiator, coplayer, and play facilitator. Offers guidelines for the selection of toys and playthings and for determining appropriate amounts of play time.

Technology Intervention for Very Young Children with Disabilities.
This article focuses on technology applications that can be used by very young children with disabilities. Described are tools for learning, recreation, and living; skills necessary for technology use; methods of integrating toys and switches into the curriculum; technology for augmentative communication; and adapting microcomputers for use by young children.

**The Computer Literacy Myth.**
*Technological Horizons in Education* v12 n6 p88-90 Feb 1985
Discusses the state of computer use in classrooms and cites several problems. The consideration of computers as "toys," elitist attitudes, administrator/teacher/parent demands, computer manufacture pressure, and lack of a clear definition of computer literacy are addressed. Suggestions for improvement are included.

**Calfee, Robert**

**Language and Literacy, Home and School.**
*Early Child Development and Care* v127-128 p75-98 1997
Claims that for home and school to cooperate on behalf of students, they must share a similar vision. Presents the concept of "critical literacy" to provide this vision. Recommends establishment of standards that clarify literacy outcomes, creation of a developmental perspective for monitoring students' progress, implementation of outreach programs from schools to homes, and bringing students into the "loop."

**Cognitive Assessment of Classroom Learning.**
Explores the cognitive assessment of classroom learning and emphasizes applications in urban settings for at-risk students. It is argued that cognitive assessment by the classroom teacher is essential to fostering the achievement of cognitive and metacognitive learning that is called for in national reports.

**Computer Literacy and Book Literacy: Parallels and Contrasts.**
*Educational Researcher* v14 n5 p8-13 May 1985
Discusses "book literacy" and questions its adequacy as a guiding framework for teaching students about computers. Describes what students need to know about computers and considers different proposals for developing instructional proposals. Focuses on curriculum development and the role of the teacher.

**Literacy and Illiteracy: Teaching the Nonreader to Survive in the Modern World.**
*Annals of Dyslexia* v32 p71-91 1982
Issues in illiteracy are discussed, and the author comments on facets of the English language writing system. He advocates a formal approach in which comprehension, rather than decoding, is the focus for students, including slow learners or disabled readers. The approach would concentrate on patterns larger than the letter-sound unit.

**Learning to Read: Theory, Research, and Practice.**
*Curriculum Inquiry* v8 n3 p183-249 Fall 1978
Some ideas about how available pieces of reading theory, research, and instruction fit together.

**How a Child Needs to Think to Learn to Read.**
1970-07-00
The component prereading skills of kindergarten children in two Wisconsin cities were examined. It was assumed that independent component skills exist and that investigation of separate skill areas would point out relevant combinations. Selected for study were visual, acoustic-phonetic, letter-sound association, and vocabulary skills. The research strategy included the compilation of a basic skills tests battery and individual administration of the battery to 21 middle-class and 22 lower-class subjects. The test results are reported separately for each skill area and for correlated skills. Predicted relationships were found to exist between visual matching and alphabet knowledge and between the acoustic-phonetic tasks of segmentation and rhyme-production. Other unpredicted correlations were found, but in general the tests appeared to be independent of one another. A bibliography and tables are included.

Technology and Literacy

Teaching and Learning in the 21st Century.
U.S.; North Carolina; 2000-05-07
This commencement address reflects on what students should learn in a core curriculum, what good learning environments should be like, and what quality teaching will look like in the future. It examines changes in education over the years, discussing the transformation in teaching and learning brought about by information technology. In this information-laden world, it is essential for teachers to prepare students with tools to interpret information and manage its meaning in their technology-driven lifestyles. Ultimately, instruction should be designed to help students understand how they learn best, allowing them to experiment with numerous learning strategies. Successful students should be able to demonstrate they have learned and understood the processes involved in establishing a long memory, associating information with previous knowledge, and using mnemonic devices to stimulate memory. Mentoring and guiding individuals as they enhance their learning strategies becomes the focus of teaching. With today's communication tools, teachers should be able to construct learning contexts that appeal to the learning styles of 21st-century students. Communications technologies are the catalyst for a paradigm shift in the delivery of education that is inextricably linked to the political, technological, social, and economic context of American education.

Literacy, English, and Computer Games.
Australia; 1999-07-07
A study examined the incorporation of computer games into English classrooms, seeking to explore computer games as text, players' engagement with them, literacies needed, and the interchangeability of traditional and newer technology. Subjects were students enrolled in a coeducational private middle school or a state secondary school, and used two particular computer games that teachers had integrated into English instruction. Results indicated that: (1) digital literacy and the English curriculum can coexist; (2) classroom dynamics were high; (3) logistic difficulties arose; (4) boys were involved most, but in some cases girls were involved equally; and (5) students improved their reading achievement. Findings suggest that the reconstruction of the English classroom needs to proceed in ways that enfranchise all students and that are hospitable to high aspirations.

Changing Minds: Computers, Learning, and Literacy.
U.S.; Massachusetts; 2000-00-00
Rejecting the notion that the computer is merely a tool for more efficient instruction, this book shows how computers can be the basis for a new literacy that will change how people think and learn. It discusses the learning theory that explains why computers can be such powerful catalysts for change in education, in particular, how intuitive knowledge is the platform on which students build scientific understanding. It also discusses the material and social reasons for the
computer's potential and argues for "two-way literacies," where everyone is a creator as well as consumer of dynamic and interactive expressive forms. The author gives many examples from his work using the Boxer computer environment, an integrated software system designed to investigate computational literacies. Chapters cover: (1) Computational Media and New Literacies--The Very Idea; (2) How It Might Be; (3) Snapshots: A Day in the Life; (4) Foundations of Knowledge and Learning; (5) Intuition and Activity Elaborated; (6) Explaining Things, Explainable Things; (7) Designing Computer Systems for People; (8) More Snapshots: Kids Are Smart; and (9) Stepping Back, Looking Forward.

**Literacy and Technology Studies: Past, Present, Future.**
Australia; Victoria; 1999-10-00
This paper examines what has been learned from research about the complex connections between literacy, technology, and learning. The beginnings of research in this area coincided with the introduction of personal computers (PCs) into educational settings in the late 1970s. For the first decade, researchers asked the kinds of questions best explored using quantitative methods. They set out to determine whether the use of computers enhanced writing. The findings, however, were equivocal. By contrast, sociocultural understandings of literacy, which became more widely accepted in the mid-80s, provoked a different research orientation and different kinds of questions. The Digital Rhetorics project (Lankshear, et al 1997) is an example of research informed by the recognition of literacy as social practice. Further, it exemplifies the shift towards qualitative research approaches in the field of literacy and technology studies. The paper includes an overview of the Digital Rhetorics project, giving particular attention to its sociocultural perspective and qualitative methodology. Finally, it considers future directions for research and practice in this area. The paper concludes that a maturing of the field of literacy and technology studies has been reached. The research agenda is fertile with possibilities. The challenge is to undertake studies that will continue to inform effective practice, mediated by new communication and information technologies, at all levels of education.

**Using Technology To Enhance Early Literacy through Play.**
Computers in the Schools v15 n1 p55-63 1999
Discusses technology with reference to children's play, including how technology mixes with the established connection between children's play and emergent literacy and advantages and disadvantages of the three-way intersection of technology, literacy, and play in early childhood education. Addresses play and computers, software, the Internet, and multimedia centers.

**How Will Literacy Be Defined in the New Millennium?**
Reading Research Quarterly v35 n1 p64-71 Jan-Mar 2000
Presents responses of 5 scholar/educators to the question of how literacy will be defined. Discusses societal changes that will impact the definition of literacy; judging credibility of sources; the claim that definitions will become more standardized; a historical view of literacy that includes the complexities of technology; and defining literacy in terms of agendas.

**Skills for Life: Information Literacy for Grades K-6. 2nd Edition. Professional Growth Series.**
U.S.; Ohio; 1999-00-00
This book presents 43 instructional guides for use with elementary school students, organized around the following information literacy, independent learning, and social responsibility standards from "Information Power: Building Partnerships for Learning". The standards dictate that students should be able to: (1) access information efficiently and effectively; (2) evaluate information critically and competently; (3) use information accurately and creatively; (4) be information literate and pursue information related to personal interests; (5) appreciate literature
and other creative expressions of information; (6) strive for excellence in information seeking and knowledge generation; (7) contribute positively to the learning community and recognize the importance of information to a democratic society; (8) practice ethical behavior in regard to information and information technology; and (9) participate effectively in groups to pursue and generate information. Instructional guides include title, author, curriculum area, curriculum connections, grade levels, prerequisites, information literacy standards for student learning, other outcomes/standards, materials needed, strategies, steps, evaluation/critique, comments/tips/follow-up, and handouts. A correlation chart lists all applicable lessons for each standard.

Technology & Literacy: Raising the Bar.
*Educational Leadership* v57 n2 p18-21 Oct 1999
Within a generation, everyone will access calculators, word processors, and video cameras as easily as paper, pencils, and books today. Information technologies will predominate. People will be expected to use several symbol systems, apply knowledge, think strategically, manage information, and create as teams. Implications for educators are discussed.

Pressing (the Right?) Buttons: Literacy and Technology, Crisis and Continuity.
*English in Australia* n123 p42-51 Nov 1998
Provides support for using computer games in the English curriculum, as texts of the new technologies, to strengthen links between students' in-school and out-of-school worlds. Claims that far from presenting a threat to accepted literacy practices, the games help students gain an awareness of how texts work and become more reflexive about the reading process.

It's a Wired World after All: Children, Books, and the Internet.
*Theory into Practice* v38 n3 p178-83 Sum 1999
Discusses the advantages of computer technology and digital communication in literacy and literacy education, cautioning that printed books should never be abandoned in favor of digital communication despite its advantages. Examines how digital communication can be used to promote literacy for poor and isolated children in all parts of the world.

Writing and Learning with Computers.
Australia; Victoria; 1999-00-00
Noting that technology is rapidly changing how people write, and why, this book explores the types of computer-mediated writing that can be undertaken by students of all ages and abilities, from elementary school through the university, both within and outside the classroom. It addresses such issues as whether there are computer programs that "teach" writing, critical theory, literacy, and writing to learn. The book helps teachers navigate these issues, exploring the new technologies impacting on writing--word processing, hypertext, and the Internet--and their successful integration in the classroom. Chapters in the book are: (1) Word Processing and the Writing Process; (2) Word Processing in the Classroom: Questions and Answers; (3) Word Processing in the Classroom: Activities for Students; (4) Hypertext in Theory and Practice; (5) Multimedia and Writing; (6) Multimedia in the Classroom; (7) The Internet: New Contexts for Writing; (8) Writing on the Internet: Questions and Answers; (9) Writing on the Internet: Activities for Students; and (10) Writing with Computers: What's Next?

Toward a Technology for Assessing Basic Early Literacy Skills.
Examines the reliability, validity, and sensitivity of experimental measures developed to assess three areas of early literacy: phonological awareness, vocabulary development, and fluency in letter naming. Results indicate which measures display adequate psychometric properties for
kindergartners not yet reading. Experimental measures were less useful for first graders who were reading well.

**Literacy in the 21st Century: Emergent Themes.**
*Peabody Journal of Education* v73 n3&4 p1-14 1998
Introduces a theme issue on literacy education, the preparation of literacy educators in the 21st century, and the contribution of technology to literacy education, examining literacy from a variety of conceptual, societal, psychological, and historical viewpoints. Reviews each contribution to the issue, discusses school reform and literacy education, and examines changes needed in preservice and inservice education.

**Individualization**

**The Subject Matters. Classroom Activity in Math and Social Studies.**
U.S.; Illinois; 1988-00-00
Through observation of fifth-grade mathematics and social studies classes, this study reveals that subject matter, a variable often overlooked in recent research, has a profound effect on instructional practice. The study analyzes the interrelations among forms of instruction, levels of student involvement, and subject matter. The analysis challenges educational research showing that classroom activities are coherent actions shaped by the instructional context--especially what is taught. The research contradicts the received view of both teaching and learning as uniform and consistent arguing that individual teachers arrange instruction very differently, depending on what they are teaching, and students respond to instruction very differently, depending on the structure and demands of the lesson.

**To Read**


development might set the stage for phoneme awareness. In S.A. Brady & D.P. Shankweiler (Eds.). *Phonological processes in literacy* (pp. 97-117), Hillsdale, NJ: Erlbaum.


**Websites**

LeapFrog Rationale http://www.leapfrogschoolhouse.com/Press-Releases/HIGH_SCOPE_MODEL.doc
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EDUCATION

Stanford University.  M.A. Education; Learning, Design, & Technology; June 2001
University of Colorado at Boulder.  B.A. Sociology; Magna Cum Laude; May 1997

COMPUTER SKILLS

• Windows 95/98  • MS Office  • Acrobat  • HTML
• Windows NT  • NT List  • NT Mail  • HomeSite
• UNIX  • Linkbot  • Wisebot  • Dreamweaver
• Macintosh  • e-education  • RealProducer  • Fireworks

EXPERIENCE

Cisco Systems, Inc.  San Jose, CA  January 2001 – Present
• IT Learning Group Intern

• Instructional Coordinator
• JIU is the first regionally accredited online university
• Maintained JIU web pages - http://www.jonesinternational.edu/
• Developed and maintained JIU online courses
• Organized, designed, and maintained the e-Global Library
• Provided technical support to students, faculty, and administration

• Computer Lab Supervisor
• Supervised 12 lab advisors including hiring, scheduling, and payroll
• Facilitated and resolved computer software and hardware problems for students
• Supported operations of two LANs that overlooked 150 PCs

• BCOR 1000 Teacher’s Assistant
• BCOR 1000 teaches students basic and intermediate computer skills
• Taught one recitation in the Fall 1996 semester with 37 students
• Taught the Advanced Section in the Spring 1997 semester with 15 students

• Research Assistant
• Worked on a national assessment funded by the National Science Foundation
• Provided hardware and software support at the Center

Quark, Inc.  Denver, CO  June 1996 - August 1996
• Quality Assurance Intern
• Tested QuarkXPress 4.0 and QuarkImmedia 1.0 software products

COLLEGE ACHIEVEMENTS

• Improved communication within SHS by creating E-Mail accounts for members

HONORS

Completed Sociology Honors Program.
• Magna Cum Laude
• Examined how Internet Privacy can be established, violated, and protected
• Funded by the Undergraduate Research Opportunity Program Grant
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EDUCATION

STANFORD UNIVERSITY, Stanford, California, degree in June 2001
Master of Arts in Education, Learning, Design and Technology.

CARLETON COLLEGE, Northfield, Minnesota, 1992-96
Bachelor of Arts Degree in political philosophy.  William Carleton Scholar

TECHNOLOGY EXPERIENCE

INSTRUCTIONAL DESIGN INTERN, LEAPFROG SCHOOLHOUSE, Emeryville, California, 2001
Designed and produced interactive media and assessments for the LeapTrack™ system.

DIRECTOR OF TECHNOLOGY, KEYS SCHOOL, Palo Alto, California, August 1997 - present
Set-up and maintain campus-wide, networked, cross-platform computer system.
Oversee all aspects of technology integration, maintenance and application

PROJECT CONSULTANT, DIGITAL ORIGIN, Mountain View, California, Summer 1999
Designed and produced tutorial for digital video editing software.

TEACHING EXPERIENCE

COMPUTER TEACHER, KEYS SCHOOL, Palo Alto, California, August 1997 - present
Design and implement interdisciplinary technology curricula for grade Kindergarten through eighth.
Teach computer applications and history to grades Kindergarten through eighth and faculty.

TEACHER, UPWARD BOUND, Stanford, California, Summer 1999
Created and taught an interactive course on American History and political participation.
Provided mentoring and tutorial assistance to a diverse group of college-bound at-risk students.

TEACHING ASSISTANT, 49ERS ACADEMY, East Palo Alto, California, September 1996 - July 1997
Taught and mentored developmentally and economically challenged adolescent males.
Prepared and implemented curricula and individualized tutoring and mentoring programs.

RELATED WORK EXPERIENCE

RESEARCH ASSISTANT, MARTIN LUTHER KING, JR., PAPERS PROJECT, Stanford University, Summer 1996
Wrote and edited articles by and about King, non-violence, and social justice.

EDITORIAL ASSISTANT, OFFICE OF PUBLICATIONS, Carleton College, June 1994 - June 1996
Wrote, edited, and produced various publications ranging from policy statements to annual reports.

SKILLS

Proficiency in wide-range of applications including word processing, video editing and web design. Skilled in network design and repair of both TCP/IP and AppleTalk networks. Trained systems administrator of multi-platform LAN and web/e-mail server.