Automated Assessment and Content Management Resource
or
How to Individualize Education and Not Drive the Teacher Crazy

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Learning, Design, and Technology
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Abstract

Utilizing the LeapPad™ technology created by LeapFrog Enterprises™, we propose to design an automated assessment and content management resource for teachers that will allow them to provide individualized learning while not overtaxing their time. Along with the design of the system, we intend to create a partially realized implementation of such a system in a 3rd grade reading classroom, complete with teacher training and curriculum. This system will result in freeing the teacher from teaching fundamental skills and will utilize the LeapPad™ to teach these skills. Moreover, this process will allow teaching of these skills to be tailored to each students’ ability and executed in an engaging manner.
Learning Problem

In order to fully individualize teaching and learning in the classroom, new tools must be developed that will allow teachers to quickly and effectively assess each student’s strengths and weaknesses and prescribe appropriate material that addresses these areas. While computers in the classroom hold some promise in this area, the cost and learning curves associated with implementing them in every classroom make them less than ideal. A recently developed technology, the LeapPad™ from LeapFrog Enterprises™ appears to be an effective tool for teaching reading. Taking this technology and coupling it with the ability to assess, report and assign tailored content to individual students is a next logical step in the direction of creating an effective instructional tool that would take the extensive workload off the teacher. While the initial plans for this system are in the works at LeapFrog™, we feel that there are many design issues that must be considered and that may go unexamined.

We then put forth the notion that how this type of learning tool will be implemented into the classroom and what type of automated assessment tool and student instruction suite the teacher will utilize, needs to be carefully conceived. How the curriculum and use of the technology will be implemented and how the teachers will interact with the system comprise the scope of our investigation. We will focus this project in the third grade reading classroom at Keys School.

Background

Given the emphasis placed on technology and the resources spent on wiring and equipping schools with computers, little tangible evidence showing 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.

Throughout this endeavor, we intend to keep as our primary concern, the individualization of instruction and the maximization of teacher effectiveness in this process. Ideally, there would be enough teachers in every classroom to ensure basic learning of skills by every child was occurring and that each student could come into higher-level cognitive exercises fully prepared to engage in such understanding. However, this is unfortunately not the situation in American schools. Therefore, it is vital importance to create tools that will allow the teacher in her limited time to effectively achieve these goals.

It is important to consider the following ideas in order to better understand this issue.

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

While a thorough study of the effectiveness of the LeapPad as a teaching tool is not consistent with the scope of this study, we hope to survey teachers currently utilizing the device in their classes to gain a sense of the best practices that currently exist. Through an examination of the research that does exist on the LeapPad™, it is ideal for the classroom because, unlike the computer, it is easy to use, acts and feels like a book, and allows for exploration. Some of its benefits include:

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

While the strengths of the teaching and learning effectiveness of the LeapPad™ are clear, what is less understood is how well it can be adapted and fully integrated as an individualized teaching aide within the classroom. This is where are study and design commences.

What we propose to design

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 create an automated assessment tool and teacher information center that will evaluate student progress and suggest prescriptive content. We intend to transform the LeapPad™ into an effective teaching tool. In doing so, we will design an optimal implementation of the LeapPad™ in the classroom. This will include designing a partial curriculum, teacher information system, and assessment tool to make the LeapPad™ highly effective for teaching.

Our design process
Ultimately, we will be employing a participatory design approach. We intend to survey teachers who currently use the LeapPad in their classroom in order to inform us of the best uses of the LeapPad. In addition, we will create storyboard scenarios of how the automated assessment tool functions and how teachers interact with it.

Once the scenarios have 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 assessment tools and teacher information system based on our findings.

After completing the automated assessment tool, we will design a partial curriculum based on state standards and the Keys School’s third grade reading scope and sequence.

As much as possible, we will continuously test our ideas and designs with teachers 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, we will consult with knowledgeable curriculum, learning and technology experts, such as Decker Walker, Michael Kamil, Denise Pope, Dan Schwartz, Brigid Barron, Robert Calfee, Anne Cunningham, Paul Melmud, Mike Milone and others as we deem necessary.

**Deliverables**

Throughout our design process we will produce a variety of deliverables of various media. We intend to provide our assessment of the best uses of the LeapPad™ as it is currently utilized in classrooms. We will create a design document for the automated assessment and teacher tools component. Lastly we will build a prototype based on our design document. We will also create a partial curriculum and teacher’s guide for implementation into a 3rd grade classroom. This will mostly likely be a written document with supplemental materials.

**Timeline**

**February - Research**
- 1 – Design document due
- 8 – Re-design document due
- 8 – Gain entrée to Keys School
- 12 – Begin assessing best practices
- 24 – Design Review
- 28 – Literature Review Completed

**March – User Testing**
- 1 – Finalize best practices of using LeapPad™
- 8 – Create storyboard of automated assessment tool
- 15 – Begin testing storyboard with teachers
- 20 – Re-design storyboard
- 23 – Finish testing storyboard
- 31 – Begin designing assessment tool

**April - Design/Redesign**
- 8 – Begin designing curriculum
23 – Design document
30 – Prototype Finished

May - Assessment
1 – Curriculum critique
8 – Refine curriculum
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 - 10 hours x $25/hr = $250
Curriculum Developer - 30 hours x $50/hr = $1500
Assessment Specialist - 30 hours x $50/hr = $1500
Designer - 30 hours x $75/hr = $2250

Total
Materials + Fees = $5900

Consultants

Professors
Decker Walker
Michael Kamil
Denise Pope
Dan Schwartz
Brigid Barron
Robert Calfee

LeapFrog
Ruth Nathan
Anne Cunningham
Paul Melmud
Mike Milone

Keys School Teachers
Harriet Korn, Reading Specialist
Carol Wilson, 3rd Grade Teacher
Jennifer Siden, Learning Specialist

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

the Machine: How computers Put Our Children’s Education at Risk (pp. 77-110).
Dewey, John (1898) On Education
Dewey, John (1937) Experience and Education

Abstracts

Background

Developmental Spelling and Phonemic Awareness in Kindergarten.
Henterly, Ann Marie
U.S.; Washington; 2000-06-00
Thirty-eight rural kindergarten students participated in this quasi-experimental study designed to assess the effect of employing daily, sequential phonemic awareness exercises on kindergartners’ developmental spelling skills. In September all students were assessed for letter recognition, symbol-sound correspondence, phoneme segmentation and blending skills, and developmental spelling level. The Peabody Picture Vocabulary Test (revised) for receptive language was administered to show equality between treatment and control groups. Both groups received the same instruction on alphabet recognition and sound-symbol correspondence. In late February, after 5 months of phonemic awareness training, the 20 students in the treatment group scored significantly higher on auditory three-phoneme blending and segmentation measures than the 18 children who did not receive the training. On an assessment of graphemic representation of three-phoneme words, the 14 non-ESL (English as a second language) students in the treatment group scored significantly higher than the 13 non-ESL students in the control group. An analysis of spelling in the journal writings in March showed that five students in the treatment
The majority of children in both classes were writing at the semi-phonetic level.

Students in the treatment group demonstrated a more consistent skill at rereading their writings than their counterparts in the control group. The results of this study suggest that phoneme segmentation skill increases student ability to represent more phonemes in words they attempt to write. Contains 23 references and 11 figures. Appendixes contain evaluation instruments and various learning tasks.

Federal and State Strategies To Support Early Reading Achievement.
Otuya, Ebo: Krupka, Susan
U.S.; District of Columbia; 1999-01-00
A study examined children's reading difficulties at the early grade levels and explored how federal and state governments are responding to this critical education problem. Sections of the study address: background issues in reading achievement; federal response to improve poor reading achievement; state issues in early reading achievement; effective intervention programs; and trends in reading assessment. Results indicate that five factors contribute to children's reading difficulties: (1) lack of phoneme awareness; (2) difficulty with reading comprehension; (3) lack of motivation to learn to read; (4) inadequate preparation of teachers; and (5) lack of standards and accountability. Findings suggest that there continues to be a gap between instructional theory and practice, and that as schools implement a balanced approach to reading instruction, adjusted curriculum, textbooks, and assessment models will be needed. Contains 28 references, and a figure and a table of data.

1971-00-00
Bloom Township High School in Chicago Heights, Illinois, has set up a reading program which includes a reading clinic, a reading laboratory, and a program of Individually Prescribed Study (IPS). The IPS helps the students to master the reading skills necessary for his course work in content areas. Used in this program are various materials for working on reading skills including SRA Reading Labs, "Be A Better Reader" and other commercially produced skill books, and materials designed by the staff of the program to correspond to the course work of the students. Personnel of the program include a reading consultant, reading specialists, reading clinicians, and teacher aides. An inservice training program is provided for all freshman English teachers. The entire freshman class is enrolled in the reading program, and it may be elected by students in any other class. Tests and observational data indicate that the program is effective, particularly for boys and for students of lower IQ's. This effectiveness is largely attributed to the program's flexibility. References are included. (AL)

Early Education Success Is Good Business.
Odell, Mary
Momentum v23 n3 p31-33 Sep 1992
Examines the Riordan Foundation's successful strategy in establishing computer-assisted reading labs in public and private elementary schools nationwide. The foundation provides challenge grants to applicant schools to purchase equipment for the "Writing to Read" program and assists them in raising additional funds from local businesses. (MRP)

How We Use Computers for (Much) Better Education.
Kempainen, Rick
U.S.; California; 1984-04-02
Despite severe budget limitations, the Bellflower Unified School District in southern California has instituted an outstanding computer education program. This transcript of a panel presentation by school board and staff representatives of the Bellflower Unified School District, describes the district's computer program, its history, its impact on the educational program as a whole, and its future prospects. The district has purchased 356 microcomputers, distributed at a ratio of 1 computer per 25 students. These are employed in computer labs, rotated among classrooms, and assigned to individual teachers for 1 year at a time, based on competitive proposals. The program provides all students, K-12, with opportunities to use computers as an instructional tool, become computer literate, develop problem-solving skills, and
engage in higher level thinking processes. The computer curriculum includes the following programs: computer-assisted instruction in reading, math, language, science, and social studies; computer literacy for students, parents, and community; and keyboarding skills and programming classes for all ages. The program is administered by four committees, formed by the instructional services division to perform the following functions: (1) curriculum design for computers, (2) software evaluation and selection, (3) school site support, and (4) staff development. Subsequent evaluation has revealed an overall 15 percent gain in student achievement scores since the program was implemented.

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.  
*Infants and Young Children* v1 n4 p66-77 Apr 1989  
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.
U.S.; Ohio; 1999-00-
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.

More Than Just the Internet: Technology for Language Teaching. ERIC Digest.
Earp, Samantha
U.S.; District of Columbia; 1997-12-00
This digest highlights non-Internet technology for teaching and learning foreign languages. Specific sections discuss (1) software for language teaching and learning; (2) authoring aids; (3) language lab systems; (3) networked multimedia; and (4) distance learning via satellite. (Contains 7 references and a list of 17 resources for further information.)

Balanced Reading Instruction: Teachers’ Visions and Voices.
Johns, Jerry L., Ed.; Elish-Piper, Laurie, Ed.
U.S.; Iowa; 1997-00-00
The 18 articles in this collection represent a view from the classroom regarding balanced reading instruction in the early stages of what is likely to become a widespread movement. The articles are intended to stimulate educators to reduce, or perhaps boldly eliminate, one-way thinking about methods, skills, grouping, and assessment. Articles in the collection are: "In Search of Balance: Restructuring Our Literacy Programs" (Dorothy S. Strickland); "Attempting Takeoff: The Metamorphosis of a Reading
Parallel Block Scheduling Spells Success.
Delany, Marcia; Toburen, Laura; Hooton, Becky; Dozier, Ann
Educational Leadership v55 n4 p61-63 Dec-Jan 1997-1998
Distressed by their students’ reading failure rate, teachers at two Georgia schools developed a parallel block-scheduling plan that allows for whole-class instruction, direct-instruction miniclasses, and enrichment labs for all students. Success depends on matching creative, resourceful teachers to the enrichment lab positions. Over the past two years, standardized reading and math test scores have risen significantly. (MLH)
Other Literacy Tools

Reading Comprehension CCA Basic Skills Curriculum. Instructor's Guide.
U.S.; Illinois; 1990-04-00
Designed and programmed by the staff of the Courseware and Curriculum Applications (CCA) Group (a unit of the Computer-Based Education Research Laboratory at the University of Illinois at Urbana-Champaign), this instructor's guide describes a computer-based reading comprehension curriculum designed for adults and adolescents who read at the intermediate fourth through eighth grade level. The guide, divided into eight units, consists of three strands of lessons: "Reading Comprehension" (20 lessons organized into skill-learning tracks, formats, and tasks, which focus on skills needed in reading for information and facts), "Pacer Passages" (13 lessons containing from two to five reading passages) and "Finding the Main Idea" (20 lessons). Each of the lessons in the guide gives the lesson's file name, authors, and author affiliation; describes lesson objectives, the lesson, and interactions; and notes suggested supplemental offline materials (SRA Reading Lab IIIa), the intended audience, completion time, and associated lessons. An appendix lists files. (SR)

Evaluation of the Cloze Procedure as a Teaching Device for Improving Reading Comprehension.
Ellington, Billie Jean
1972-00-00
This study evaluated the effect of the cloze procedure in the development of comprehension, vocabulary, and speed of reading by comparing the scores on the Cooperative English Tests; Reading Comprehension of a group receiving cloze reading comprehension exercises, a group receiving conventional reading comprehension exercises, and a group receiving no reading comprehension exercises. The subjects, 81 eleventh grade students, were randomly assigned to one of the three treatment groups. The cloze treatment consisted of 75 cloze comprehension exercises constructed by an every-tenth-word deletion system from the Power Builders in the SRA Lab IIIa. The conventional reading treatment consisted of 75 conventional reading comprehension exercises from the Power Builders in the SRA IIIa. The no-reading group received regular English instruction. Multivariate analysis of covariance was used to test the hypotheses. Analysis of the data revealed that no significant differences existed among the vectors of adjusted means for a group receiving cloze reading comprehension exercises, conventional reading comprehension exercises, and no reading comprehension exercises. (Author/WR)

Strengths and Weaknesses Identified by an Evaluation of the Implementation of the Writing To Read Program.
Howard, Katrena C. ; DiSalvo, Mindy L.
U.S.; Georgia; 1989-06-00
Writing to Read (WTR), a project of the International Business Machine Corporation (IBM), is a language development program designed to facilitate reading, writing, listening and speaking skills of kindergarten and first grade students. This paper reports on an evaluation of WTR in a large suburban school district in Georgia seeking answers to the following questions: (1) whether the program was implemented in the schools as intended by IBM; (2) if the program was cost effective; and (3) what kind of impact the program had on student achievement. Scores from standardized achievement tests, student and teacher questionnaires, field notes, and interviews to evaluate program effectiveness and to identify strengths and weaknesses were analyzed. Results indicated that: (1) the overall goal of WTR was being achieved for most students; (2) WTR seems to have had a positive impact on teachers' opinions that young children can compose; (3) there was a need for attention to the roles of teachers (as instructional leaders in the lab, and in the classroom in support of WTR), students (at the listening library station and in partnership activities), and central office personnel (in monitoring WTR labs); and (4) there was also a need for attention to the time lapse between training and implementation, the amount of guided practice, the continuation of training during implementation, and general inservice training throughout the year. As a result of these findings, changes were implemented to address the issues raised. (Eight tables of data and 10 appendixes of interview information are attached.) (PRA)
Effective Academic Interventions in the United States: Evaluating and Enhancing the Acquisition of Early Reading Skills.
Good, Roland H. III ; Simmons, Deborah C. ; Smith, Sylvia B.
School Psychology Review v27 n1 p45-56 1998
Article develops a rationale for early literacy intervention, reviews the major implications of converging evidence in early literacy and reading acquisition, and proposes mechanisms to enhance early literacy development through the strategic and timely linkage of assessment and intervention. Presents major areas of convergence research regarding what to teach and how to teach reading.

Reading Labs Speed Learning, Bring Confidence and Enjoyment
Modern Schools 8-9, Feb 73
School districts throughout the State that have established reading labs report substantial grade level gains by students in relatively short periods of time.

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.

Individualized Reading Program For Elementary Grades.
NICHOLS, MARGUERITE
1964-00-00
An Individualized Reading Program For Grades 2, 4, And 5 Was Initiated At Plateau Valley School In Collbran, Colorado, In An Effort To Raise The Achievement Level Of Culturally Disadvantaged Youth In Rural Areas. The Program At Each Grade Level Is Described In Terms Of The Methods Used To Gather Preliminary Data, In The Selection And Use Of Materials, In Planning And Conducting Class Activities, In Trying New Methods And Techniques, And In Evaluating The Results. Examples Of Pupil Reading Record Books, Tests, Reading Inventories, Reading Profiles, Class-Sharing Ideas, Questions Used With Independent Reading, And Book Review Forms Are Included. Uses Of The Science Research Associates (Sra) Reading Labs, Weekly Reader, And Basal Reader Materials Are Described. The Program Was Evaluated On The Basis Of (1) Student Achievement On The Sra Achievement Tests, Scott Foresman Tests, Iowa Tests Of Basic Skills, Weekly Reader Tests, And Anecdotal Records And Student Behavior Changes, (2) Teacher Changes In Methods Of Teaching And Attitudes Toward Job And Interest Of Nonproject Teachers, And (3) Effects On School And Community As Indicated By Changes In School Operations And Community Involvement, Acceptance, And Interest. Test Scores For The Three Classes Are Given. (LS)

Summer Bridge Programs: Supporting All Students. ERIC Digest.
Kezar, Adrianna
U.S.; District of Columbia; 2000-06-00
Over the last thirty years access to higher education has expanded markedly. Remediation and support programs, including summer bridge programs, have grown in response to the needs of international students, non-English speakers and disabled students, and others who need help in gaining an equal footing with other students. The other main thrust of these programs is to retain these new populations within higher education. The summer programs offer a wide range of activities: academic support, study skills, career counseling, parent involvement, developing relationships on campus, computer literacy, and partnerships with business, communities, and K-12 educators. Individualization of the curricula and
Capitalizing on Small Class Size. ERIC Digest Number 136.
O'Connell, Jessica ; Smith, Stuart C.
U.S.; Oregon; 2000-04-00
This Digest examines school districts' efforts to reap the greatest benefit from smaller classes. Although the report discusses teaching strategies that are most effective in small classes, research has shown that teachers do not significantly change their teaching practices when they move from larger to smaller classes. Smaller classes mean teachers can spend less time on discipline and more time on individualized instruction, yet the key to success in class-size-reduction (CSR) initiatives is high-quality instruction. However, the growing demand for teachers has swelled the ranks of those teachers lacking full credentials, and the report emphasizes the importance of staff development, which should be ongoing, school-based, and geared toward creating a professional community where teachers find out together what works for their students. In addition to a shortage of qualified teachers, CSR has placed a premium on classroom space. Schools have met this challenge by using portables, by remodeling existing spaces, and by reopening closed schools. Smaller schools have various options when using federal funds. Finally, the Digest offers some guidelines on what districts should focus on in class-size policy, including the targeting of money and other resources to minority and low-income students who stand the most to gain from CSR. (Contains 12 references.) (RJM)

Assessment

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.

Barrentine, Shelby J., Ed.
1999
This compilation of articles from "The Reading Teacher" contrasts old and new approaches to reading assessment and offers methods that teachers can use in the classroom to build better readers. The articles suggest that in order to effectively assess young readers, one must integrate assessment with instruction, which requires new forms of assessment such as performance-based assessment, miscue analysis, and portfolios

Using Directed Reading Thinking Activity Strategies To Teach Students Reading Comprehension Skills in Middle Grades Language Arts.
DeFoe, Marguerite Corbitt
May 24, 1999
Abstract: This practicum was designed to use directed reading thinking activity strategies to teach reading comprehension skills to middle grades language arts students who frequently failed to make passing scores in reading comprehension exercises. The program included three specific
strategies. The first strategy was to teach the students higher-order thinking and metacognitive skills by using SRA (Science Research Associates) activities, Directed Reading/Thinking Activities, and Question and Answer Relationship strategies. The second strategy was to teach the students decoding by analogy. The third strategy was to use cooperative learning while working on reading comprehension assignments. The goal and expectations were for all the students to improve reading comprehension so that students would make better grades. An analysis of the data revealed that students did improve their reading comprehension skills, but not significantly. Parent involvement was not what was expected. The lack of interest was due to tight schedules, and their perceived inability to help. Contains 31 references. (Author/RS)

Reading Programs for Students in the Lower Elementary Grades: What Does the Research Say?
Briggs, Kerri L.; Clark, Catherine
1997
Abstract: This report aims to disseminate research findings about reading programs for early elementary grades in a summary format useful for educators. The report features programs with clear descriptions and useful research, programs for non-English speaking children and research on basal reader series were not included. The four sections of the report address: (1) comprehensive classroom approaches to reading instruction (Cooperative Integrated Reading and Composition; Exemplary Center for Reading Instruction; Open Court; The Slingerland Approach; SRA Reading Mastery; and Success for All); (2) classroom supplements to reading instruction (Accelerated Reader; Junior Great Books; and IBM's Writing to Read 2000); (3) small group approaches to reading instruction (Alphabetic Phonics and Project Read); and (4) tutoring approaches to reading instruction (Auditory Discrimination in Depth, Helping One Student to Succeed; Programmed Tutorial Reading; Reading One-One, Reading Recovery, and Recipe for Reading). In each section, three aspects of each program are described: (1) instructional strategies and curricular contents incorporated by the program; (2) resources needed to implement the program; and (3) evidence of the program's effects. A list of elements of research-based reading programs concludes the report. Contains 73 references. (RS)

Measuring Student Knowledge and Skills: A New Framework for Assessment.
Schleicher, Andreas
France; 1999-00-00
The new program of the Organisation for Economic Co-Operation and Development (OECD), the International Programme for Student Assessment (PISA), represents a commitment by governments of the OECD countries to monitor the outcomes of education in terms of student achievement within a common international framework. The focus will be on students approaching the end of secondary education, and 32 countries plan to take part in the PISA assessments. This document provides the conceptual framework on which the PISA 2000 assessment is based. It defines the domains of reading literacy, mathematics literacy, and scientific literacy forming the core of PISA in terms of the content that students need to acquire, the processes that need to be performed, and the contexts in which knowledge and skills are applied. It also describes the methods used to ensure that the assessment tasks are valid across countries, strong at measuring relevant skills, and based on authentic life situations. Two appendixes contain a list of the expert group members and a discussion of considerations for future survey cycles of the OECD/PISA.
To Read


Websites

LeapFrog Rationale http://www.leapfrogschoolhouse.com/Press-Releases/HIGH SCOPE MODEL.doc
John Wong
102 Hoskins Ct. Apt. 5D
Stanford, CA 94305
johnwong@stanford.edu
650.498.1165
http://ldt.stanford.edu/~johnwong

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

**Jones International University.** Englewood, CO April 1997 – May 2000
- 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

**College of Business.** Boulder, CO September 1993 - May 1997
- 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

**College of Business.** Boulder, CO August 1996 - May 1997
- 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

**Natural Hazards Center.** Boulder, CO August 1996 - May 1997
- 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

ACHIEVEMENTS

**Sophomore Honor Society.** Boulder, CO August 1993 - August 1994
- 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
MICHAEL G. THOMPSON

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Palo Alto, California  94301-2444

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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.