



MAXSCHOLAR

LEARNING AT THE TIP OF YOUR FINGERS

MaxScholar programs are the solution for struggling readers. Using cutting-edge **software** we provide intervention materials to improve word recognition skills, reading comprehension, fluency, and vocabulary.

Our interactive **Orton-Gillingham program** is structured, organized, and easy for students to use. The multi-sensory approach used provides visual, auditory, and tactile-kinesthetic input connecting with each student's learning strength. It provides every student the opportunity to address decoding/encoding and handwriting skills, while providing every student the opportunity to learn to read.

The **Reading Comprehension programs** are designed for students reading below grade-level, including those with Learning Disabilities, Dyslexia, ADHD, Auditory Processing Disorders, Executive Function, Working Memory, and Processing Speed Disorders, as well as for those students who are English Language Learners. In addition, the materials also present an opportunity for all students to master an important strategy which is then applicable to all content materials. Our unique reading comprehension instruction teaches students how to effectively highlight text, using a research-based strategy based on Lindamood-Bell's visualizing techniques. It requires the student to summarize or recall what has been read. The drill and practice builds working memory and retrieval memory, while improving processing speed.

Taken together, all our programs are designed to present to the student a multi-sensory approach to reading, providing extensive drill and practice, and interactive materials. This learning environment engages the students and encourages their active participation.

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WELCOME TO
MAXSCHOLAR

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LOST PASSWORD SIGN UP LOGIN

What is MaxScholar?
Click here to find out!

I want to try it out!
Get your free demo here

I want to Register
Contact us to get our product

Are You A Guest User? Click Here!

STATEMENT OF THE SERIOUSNESS OF THE LITERACY PROBLEM

The lack of reading skills is a serious problem facing the United States today. According to the National Assessment of Education Progress¹ (NAEP), 37% of 4th graders and up to 70% in some low-income urban areas² cannot read at the basic level. 79% of the 8th graders in the Chicago Public Schools^{3,4} are not grade-level proficient in reading. As students advance through the grades, the learning gap between the readers and non-readers widens,⁵ and nearly 35% of non-readers drop out of school, a rate more than twice their classmates.⁵ Far too few children, no matter their socioeconomic background, can read well enough to function in an economy in which literacy is more-important than ever.⁶ Boys are especially challenged, often trailing their female peers in reading causing them to fall far behind academically by the time they reach middle school. Over \$13 billion was spent in 2011 on students who were retained a grade because they cannot read,⁷ while \$2 billion was spent in 1992.

The current approach to reading failure is remedial, not preventative, forcing students to experience failure before receiving help. In some school districts, the process to get students the help they need is slow, further delaying their ever learning to read. In addition, some of the best methods proven to work with non-readers are difficult for teachers or tutors to learn, thus depriving students the opportunity to benefit from these research-based methods.

Children who are poor readers at the end of the first grade almost never acquire an average level of reading skills by the end of elementary school.⁸ Children who are poor readers by the end of second grade are viewed as having their “last chance.” Those children who are not on track by third grade have little chance of ever being on grade level.⁹

¹National Assessment of Education Progress, The Nation’s Report Card: Reading 2011.

²Lyon, G Reid, International Dyslexia Association, Quarterly Periodical, *Perspectives*, 29:3, 2003.

³National Assessment of Education Progress, *ibid*

⁴Luppescu, S, Allensworth, EM, Moore, P, et. al., Trends in Chicago’s Schools across Three Eras of Reform: Summary of Key Findings, Consortium on Chicago School Research, September 2011.

⁵*To Read or Not to Read: A Question of National Consequence*, National Endowment of the Arts, November 2007.

⁶Biddle,RiShawn, *American Spectator*, September 21, 2010.

⁷*Huffington Post*, March 19, 2011.

⁸Foorman, B., Fletcher, J., & Francis, D. (1997), www.ldonline.org/article/6251

⁹Snow, C., Burns, S., & Griffin, P., (eds.). (1998), *Preventing Reading Difficulties in Young Children*. Washington, DC: National Academy Press (NAP).

OVERVIEW OF THE SOLUTION

MaxScholar programs are the solution for struggling readers, using cutting-edge **software** to improve word recognition skills and reading comprehension. The programs are for students reading below grade-level, including those with Learning Disabilities, Dyslexia, ADHD, Auditory Processing Disorders, Executive Function, Working Memory, and Processing Speed Disorders, as well as for those students who are English Language Learners. The programs can also be used for all students, providing extra drill and practice to reinforce word recognition and comprehension skills.

Our **interactive, multi-sensory Orton-Gillingham program** is structured and organized in a way that is easy for students to use. Our **interactive electronic Highlighting Program** teaches students to highlight properly, improving reading comprehension, oral and written language, and vocabulary.

Electronic learning, as we present it, has the ability to transform ways of learning to read words, gaining understanding through technology. The students are always able to progress at their own pace.

MAXSCHOLAR ORTON-GILLINGHAM MULTI-SENSORY PHONICS PROGRAM

Our Orton-Gillingham based method⁹ allows teachers to use a method that has been proven effective for over 70 years. Sadly, this method is rarely offered in schools due to lack of knowledge about the method by the teachers or the resource staff, and the exorbitant cost of professional development and implementation. Our program teaches the students the alphabetic principles, while increasing their fluency¹⁰, auditory processing abilities, and their recognition of sight words. The students are often reading sentences for the first time. Sometimes teachers who do try to use this method will skip steps or will not provide enough drill and practice. They may not have the option to individualize the amount of time spent on any individual letter, sound, or skill for each student. Our electronic method addresses all of these concerns. It allows a teacher, an aide, a reading coach, a tutor, a volunteer, or even a concerned parent or grandparent to present a student an easy to learn method. It involves the use of cutting-edge technology, engages the student, allows the student to proceed at his or her own pace, and is actually fun to use. Moreover, because the software is web-based, once the student has been assigned a specific username and password, it can be accessed anywhere there is Internet connections available.

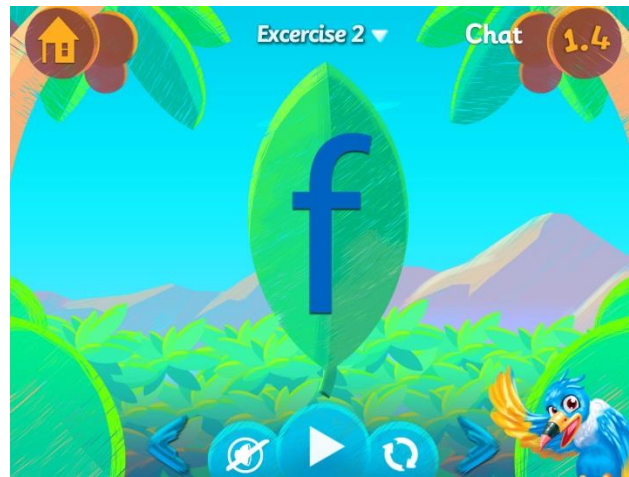
The **MaxScholar Orton-Gillingham Multi-sensory Phonics Program** starts by teaching the student the letters and sounds they make. It then provides drills in the auditory, visual, and kinesthetic areas to reinforce learning. The program provides everything needed to learn to read. There is no longer the need to look for different sources or gather materials to be used in teaching, a time consuming and confusing step. Our program is easy to use for teachers, tutors, parents, and grandparents.

This program introduces the structure of the English language to all beginning readers, whether they are in pre-K, Kindergarten, First Grade, Second Grade, or Third Grade, are English Language Learners, or are struggling readers in any other grade, who have not mastered the alphabetic principle. It is based on over 70 years of clinical experience, supported by a multitude of research studies, and is considered one of the best ways to teach children how to read words, sight words, and stories. This program is the first of its kind to be so extensive, thorough, and easy to use, and available in an **electronic** format.

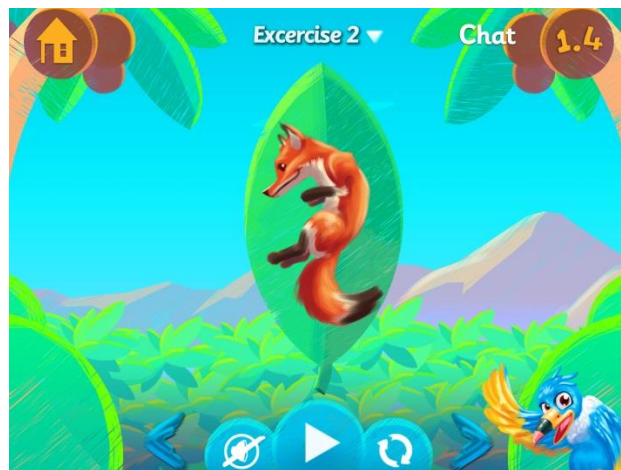
⁹Ritchey, K. D.; Goeke, J. L. (2006). "Orton-Gillingham and Orton-Gillingham Based Reading Instruction: A Review of the Literature". *The Journal of Special Education* **40** (3): 171.

¹⁰Wolf, Maryanne, "What is Fluency? Fluency Development: As the Bird Learns to Fly." Scholastic Professional Paper, 2006.

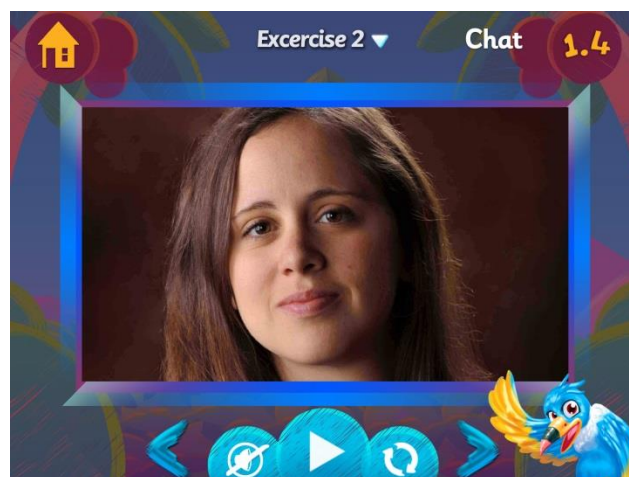
Examples of letter, picture, sound sequence:



"This is the letter f."

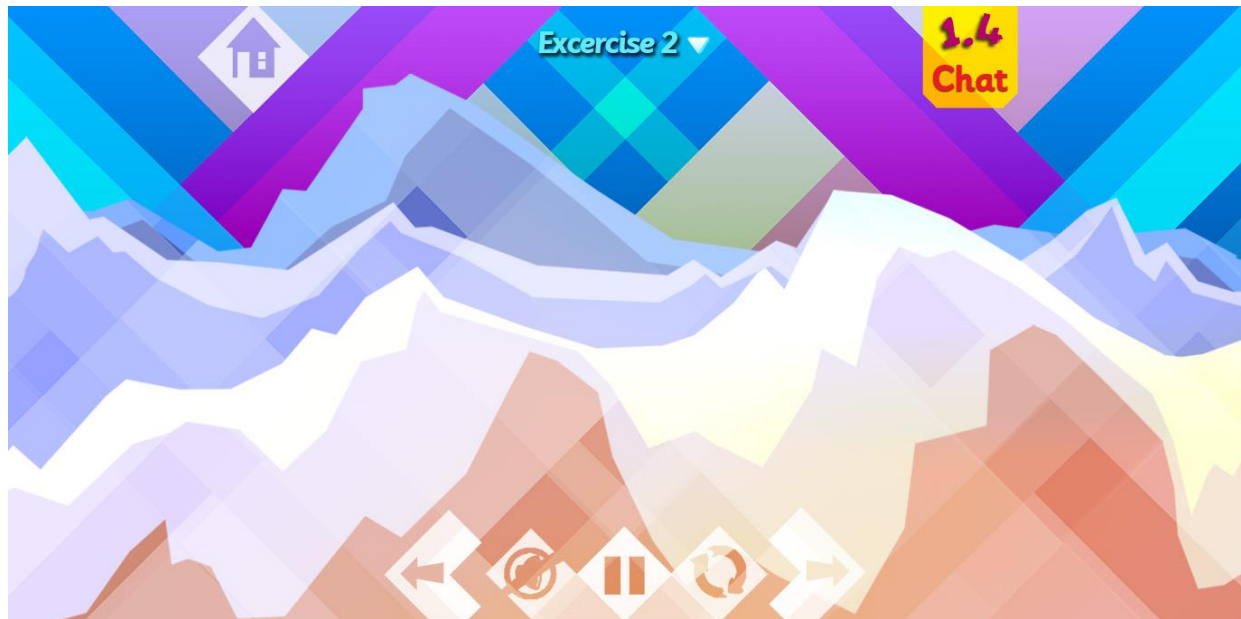


"As in fox."



It makes the sound /f/.

The computer shows an animation of how to write the letter in the sky & in the sand.

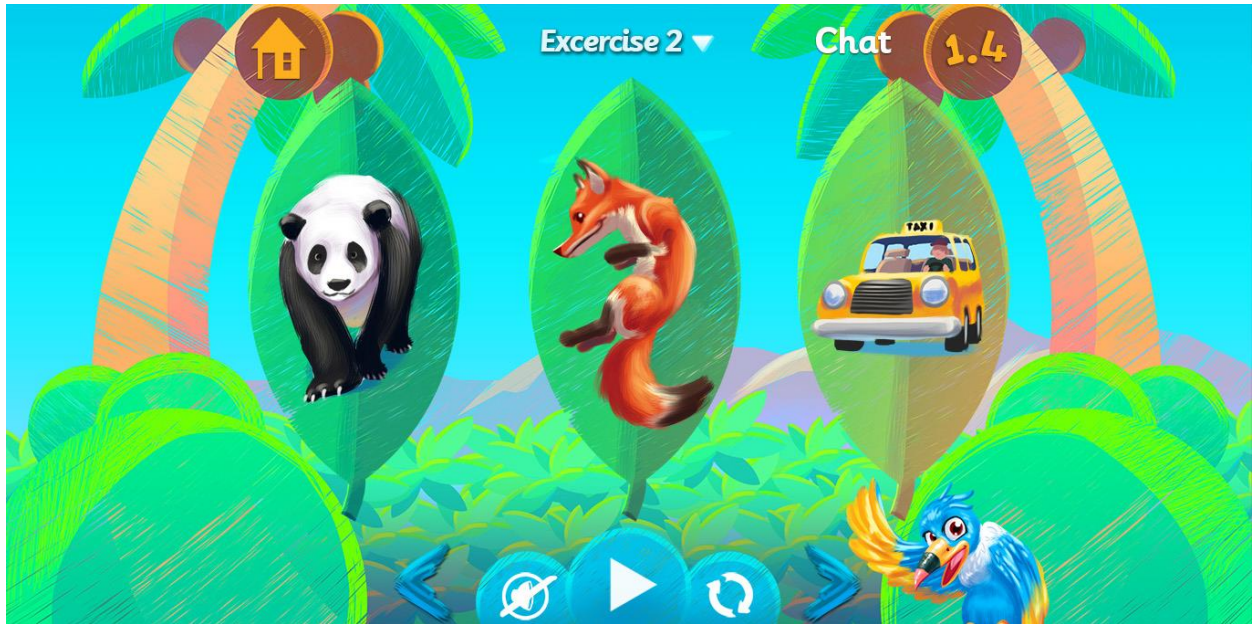


Sky writing

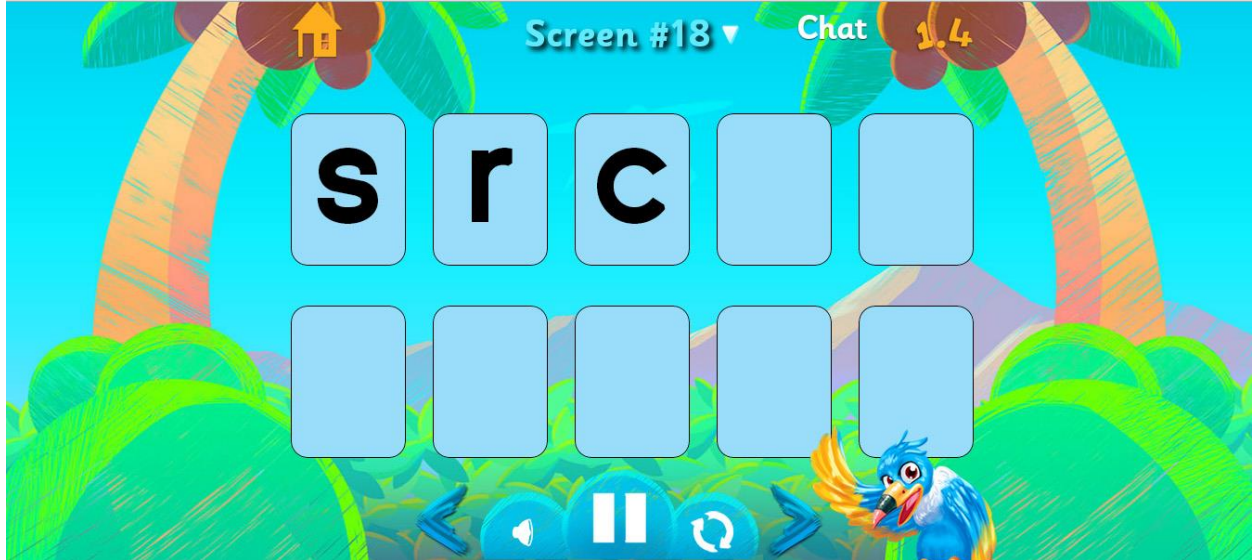


Sand Writing

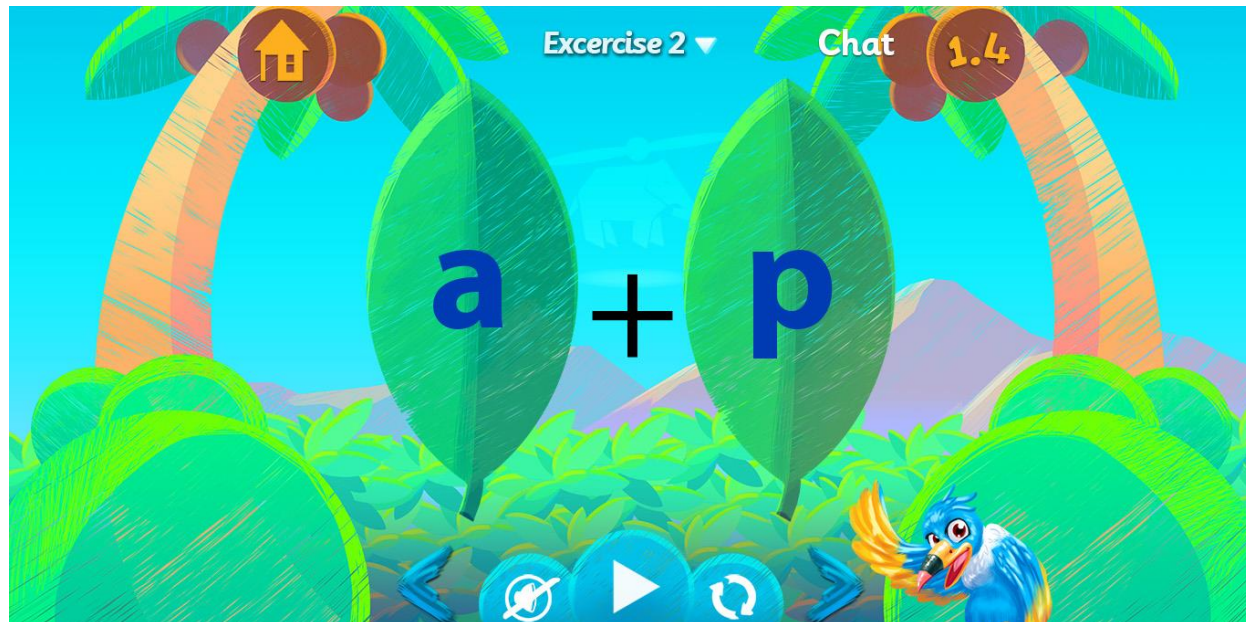
Phonemic Awareness Drills: "Find the picture that starts with the sound /f/."



Auditory Sound Drill: "Type the letter that makes the sound /t/ as in taxi."



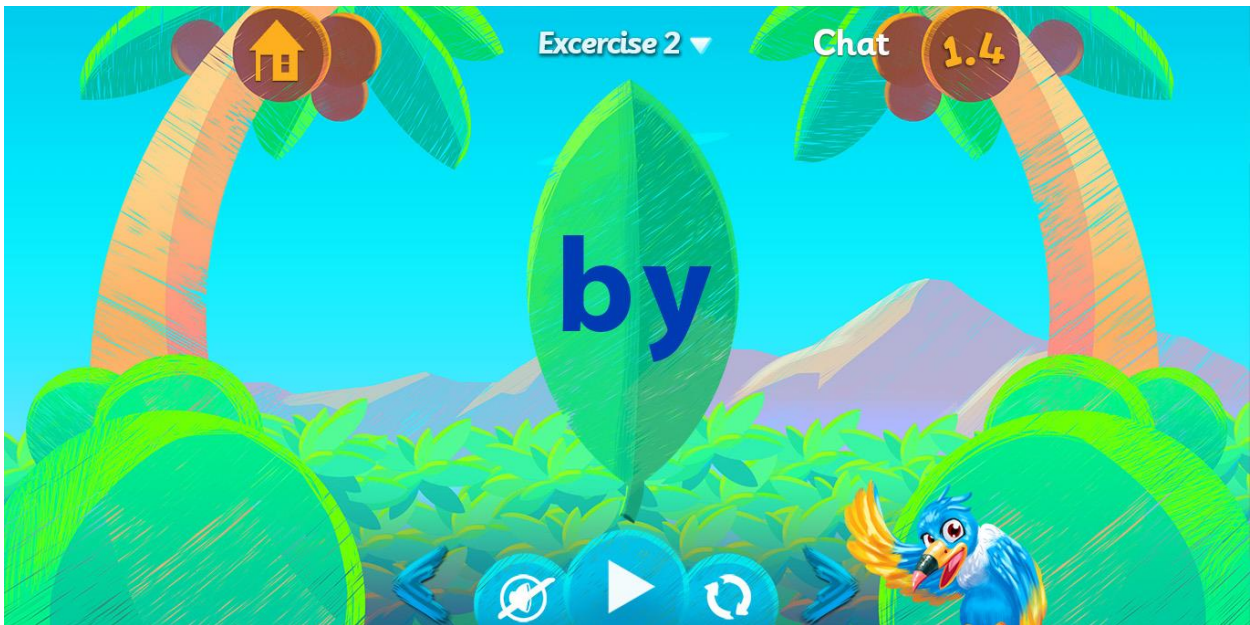
Sound Blending Drill: "Say the sounds the letters make and blend them into a word."



Fluency Drill: "Listen to me as I pronounce each word in order. Next you will be asked to read the same words, and you will be timed to see how many words you can read in one minute."



Sight Words: "You will now learn the sight words that will appear in the story you will read."
(This is an example of one of the sight words.)



Controlled Reader



MAXSCHOLAR HIGHLIGHTING PROGRAM

Reading comprehension problems affect 75% of all struggling readers. Our interactive, electronic program teaches a student how to highlight, a research-based strategy that is very effective in improving comprehension. Most students are never taught how to highlight, and, when given a highlighter, will often color the entire paragraph or passage. Our program was created to allow only the important words and phrases to be highlighted while the student is using our electronic highlighting tools. Visualizing and summarizing what has just been read is a strategy that helps reading comprehension. The students who can visualize and retell what is read will better understand the passage, allowing them to answer questions about what has just been read. Our passages are written with high interest content. We have materials written which appeal to students of many cultural backgrounds.

MaxScholar Highlighting Reading Comprehension Program is based on the educational strategy of highlighting. Research has shown that the highlighting strategy using a specific sequence of directions (topic in blue; main idea in green; and only the important details in yellow) teaching the student to focus better, to visualize what is read, to remember what is important, and to slow down in reading. This strategy develops self-confidence in reading. After highlighting a given passage, the students are asked to summarize, either by writing in a notebook or orally to the classroom, teacher, aide, parent, or grandparent. This process insures better recall of the text. This program has provided outstanding results for struggling readers, ESE, and ELL students. This is the first electronic version of a reading comprehension program that allows students to learn to utilize the highlighting strategy in a way that improves reading comprehension. There are books in the series that allow students to start at their own level and scaffold upwards towards grade level or better reading.

The students will soon master this powerful strategy, while they are becoming comfortable using digital materials. The future of educational textbooks and other learning materials will be on the digital format. Materials were carefully selected to engage students from many different cultures. Because of the graphics, the animations, the scoring system, and the interaction with the computer, many students comment that the program is “fun” or that it seems like “playing a video game.”

The program always provides questions at the end of each passage that follow the Common Core State Standards and judge explicit and implicit (inferential) reading comprehension. It is a creative way to address individualized Response to Intervention (RTI) 1, 2, 3.

Hi XXXXXX MyMax Topic Details Main Menu Logout

Menu **Passage 18**
The Outback

"Dad, remember that trip we took in Perth? We went to the gold towns. Was that part of the Outback?"
 "Yes Max, didn't you see that sign? It said the 'Outback starts here'. Kaz got her book out again and read, "The Outback is a very big part of the country. It is very lonely and dry out there. The 'outback' means not just places away from the city. It means it is in the country far past the bush or forests."
 "Thank you, Kaz," said Mom.
 Kaz continued, "The Outback is home to many animals. There are kangaroo, emu, and dingo. Some parts are slightly fertile."
 "You mean things don't grow there? Don't they have farms? How could they do it if it is not fertile?" Max asked.
 Kaz just smiled. "These areas are used for cattle and sheep," Kaz read to him.
 "Okay Kaz, let me see that book. It says, many parts of the Outback have fossils. Oh, that's cool. There are the remains of old birds and reptiles. They are from the caveman days. Dad, we have deserts, don't we?"
 Dad said, "Yes, Max, the state of Arizona means 'dry area'. We have cattle in our desert areas too. We don't call it the outback, that's all."
 Max went back to reading the book. "The Outback was the last area explored. People went to the coastal lands first. That makes sense," said Max.

Questions MaxVocab

This is a "typical" passage.

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Questions MaxVocab

This is how many students highlight.

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Questions MaxVocab

This is how we teach the student to highlight.

Demonstration of how to use the MaxScholar Highlighting Program

In order to use the entire MaxScholar software, a user must have a computer, either PC or Mac. The software also works well on a tablet, like an iPad, providing that there is an Internet connection. The following Internet browsers work well, and they can be downloaded for free:

Google Chrome	(www.google.com/chrome)
Mozilla Firefox	(www.mozilla.firefox.todownload.com)
Safari	(www.safari-free.todownload.com)

Internet Explorer (IE) does NOT work well. The software has not been tested on Opera.

On-line demonstration on how to use MaxScholar Highlighting Program is available at this web address: http://maxscholar.com/video_highlighting/



MAXMUSIC

Along with learning to read, students need a knowledge base, cultural literacy, and critical thinking skills. Today's children need a knowledge base which they often do not have. In this section students have the opportunity to develop such a knowledge base, using bios of famous musicians. The available choice of musicians is quite surprising to many students. There are artists that appeal to students of many different cultures. When the student opens a passage by clicking on a drawing of a specific artist, the passage opens and immediately plays music from that artist while the student is reading the passage and answering the questions. This app often will invite students who might otherwise be uninterested in learning to read.



Hi XXXXXX MyMax  List of Artists Logout


Pay Attention To The Notes And Play Them!

PAINT IT BLACK BY THE ROLLING STONES




♪ ?



Hi XXXXXX MyMax  List of Artists Logout

Let's Play Identify!
With The Rolling Stones




Up Here are 3 Highlighters!

- Use the **Blue** one to highlight Verbs!
- Use the **Yellow** one to highlight Adjectives!
- Use the **Green** one to highlight Adverbs!


When you're done you'll get a score based on how well you did!

Ready? Go!

MaxVocab

Hi XXXXXX MyMax  List of Artists Logout

Let's Play Fillers!
With The Rolling Stones



Well, I've been haunted in my sleep
 You've been starring in my dreams
 Lord I miss you
 I've been waiting in the hall
 Been **Verb** on your call
 When the phone rings
 It's just some friends of mine that say,
 Hey, what's the matter man?
 Were **Verb** come around at twelve
 With **Gonna** rican girls
 that a **Better** to meet you.
 Were **Coulda** a case of wine
 Hey, lets go mess and fool around
 You know, like we used to

Done?
Let's See How You Did!

MaxVocab

MAXPLACES

MaxPlaces allow students to understand the world and to learn some facts about geography, a subject that many school-aged children never master in school. Many children are aware of only the city in which they live. Again, the purpose of this module is to give more drill and practice using materials that will be of interest to young readers, as they learn about places around the world.



MaxPlaces App

MAXVOCAB

By clicking the button “MaxVocab” located in the lower right hand corner of each passage in the Highlighting series, certain words will become highlighted in dark grey. The student can use this tool while reading the passage, when encountering an unfamiliar word. The most relevant, high-frequency, vocabulary words of the passage have been preselected and will always appear when the MaxVocab button is clicked. Research¹⁰ shows that students of all ability levels increase their knowledge of the target vocabulary words as a result of reading passages in which the words appear, regardless of the instructions or of word lists given prior to reading. Lessons that utilize vocabulary in context can also help students learn to use context clues to identify the meaning of unknown words. These clues are methods that readers can use to determine the meaning of a word by using the language and other words found around it. Context clues can help a student learn to read more critically and to be better prepared for further reading outside the classroom.

Once the student clicks on the MaxVocab button, the vocabulary words in the passage become highlighted. Clicking on the individual word brings up the definition of that word, in the context that it is used. By clicking on “More...” in the upper right hand corner, a list of all the vocabulary words in that passage appears. By scrolling down to the appropriate word, the student can again see the definition, along with a synonym, antonym, and the use of the word in a sentence. If a student encounters a word that he or she does not know which is not a highlighted vocabulary word, the student is encouraged to use one of the on-line dictionary web sites, such as www.dictionary.com to look up the meaning of that word.

After clicking on MaxVocab

Hi XXXXXX MyMax Topic Details Main Ideas Logout

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Questions MaxVocab

After clicking on More...

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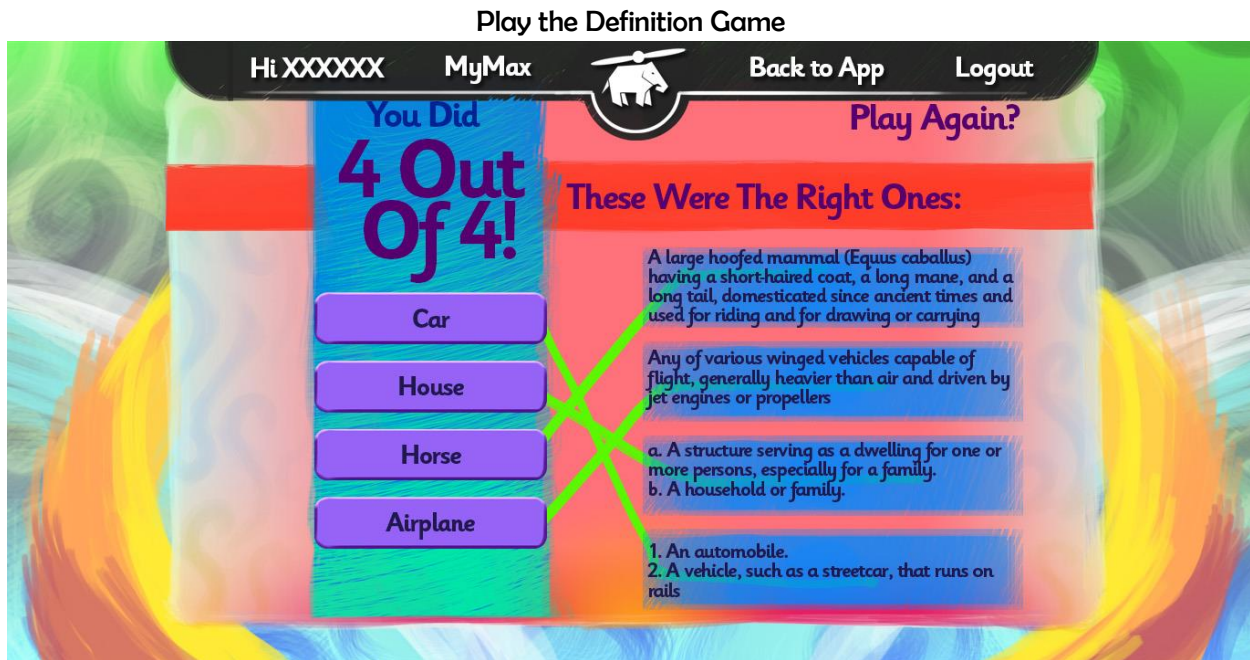
Country (Countries) **More...**

- a. A nation or state.
- b. The territory of a nation or state; land.
- c. The people of a nation or state; populace

the outback, that's all."
 Max went back to reading the book. "The Outback was the last area explored. People went to the coastal lands first. That makes sense," said Max.

Questions MaxVocab

In addition to using MaxVocab while the student is reading a passage, there is a tab under “List of Apps” which is also called “MAXVOCAB.” After clicking on that tab, the student is presented two choices: “Look for a Word” and “Play the Definition Game.” By clicking on “Look for a Word,” the entire list of all words in all the passages of a specific book can be found. If the student or teacher suggests, the student can review all the vocabulary words not mastered, write each word on an index card, and write the definition, synonym, and antonym on the reverse side of the index card. These cards can be saved in a box and reviewed periodically until each word is mastered. By clicking on “Play the Definition Game,” a type of “Hangman” game appears. The student is asked to type a specific letter until the entire word is spelled out correctly. The words used are from the master word list of the program.



¹⁰Killian, AS, Nagy, WE, Pearson, PD, et. al., Learning Vocabulary from Context: Effects of Focusing Attention on Individual Words During Words During Reading. Center for the Study of Reading, College of Education, University of Illinois at Champaign-Urbana, Technical Report No. 619, November 1995.

RESEARCH

Orton-Gillingham Phonics

Reference 1

Study Shows Orton-Gillingham Curriculum Benefits Students

November 8, 2010

http://www.redorbit.com/news/health/1945628/study_shows_ortongillingham_curriculum_benefits_students/

Kingston, NY (PRWEB) November 6, 2010

A short-term study of an Orton-Gillingham curriculum implemented with first, second, third and fourth graders in a reading remediation program demonstrates age equivalent gains of up to 3 years and 6 months. Overall, the study shows significant gains in both Passage Comprehension and Word Attack skills tested using the Woodcock Reading Mastery Test Revised Form G.

The Multisensory Teaching study was conducted during the 2009-2010 school year by Alison Luria, founder of Multisensory Teaching.

"Similar findings can be expected of any properly implemented Orton-Gillingham curriculum," said Luria. "All students will benefit from teachers who are well-trained in Language Enrichment, Developing Metacognitive Skills, Multisensory Grammar and Writing. Students with reading difficulties will reap the greatest rewards."

"This study shows that an Orton-Gillingham curriculum can help struggling readers improve their skills. Schools interested in implementing proven methods of early reading instruction should consider Orton-Gillingham based training for their teachers." said Susanne Warren of High Meadow School in Stone Ridge, NY. Language Enrichment certificate recipient Kristin Schroder, stated, "As a teacher with over 20 years experience, I am excited to be teaching the comprehensive Language Enrichment program in the Kindergarten classroom. It addresses my students' needs and I am now confident in their success as they progress through the program."

Reference 2

http://www.orton-gillingham.net/greeley_research.pdf

Efficacy of a Multisensory Reading Program 1

THE EFFICACY OF A SUPPLEMENTARY MULTISENSORY READING PROGRAM: The Efficacy of a Supplementary Multisensory Reading Program for First-Grade Students

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Colorado Department of Education

Jack C. Shaw
University of Northern Colorado

Rose Shaw
Metrica

Abstract

The purpose of this study was to evaluate the efficacy of the Institute for Multi-Sensory Education's supplementary Orton-Gillingham based reading program across three schools in a single school district. Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessments were used to measure the reading skills of 224 treatment and 476 comparison group first-grade students, with control group students receiving traditional reading instruction for 90 minutes per day in a core reading program and treatment group students receiving instruction using the supplementary reading program for 30 additional minutes per day. Classroom observations by reading professionals revealed satisfactory program implementation. Collected teacher surveys demonstrated high teacher satisfaction with the program. Alphabetic principle and phonemic awareness skills in the treatment group made significant improvement relative to the comparison group. Treatment group female Hispanics made the greatest gains in alphabetic principle skills.

Program for First-Grade Students

The purpose of this study was to examine the effectiveness of an Orton-Gillingham (OG) based multi-sensory reading program as a supplement to regular first-grade classroom instruction in three elementary schools in a high-needs school district. Both comparison and treatment groups were taught using the district's core reading program during a 90-minute reading block, and the treatment group's reading instruction was supplemented with an Institute of Multi-Sensory Education (IMSE) reading program for 30 minutes per day. First-grade students in the three treatment schools made the most dramatic improvement in acquiring alphabetic principle skills. There was also substantial evidence that phonemic awareness skills improved more for students in the treatment group than in the comparison group. Hispanic female students demonstrated the greatest improvement in alphabetic principle skills after receiving IMSE's reading program.

The IMSE supplemental reading program is designed to be incorporated into existing reading curricula to provide a multisensory, phonetic, and structured instructional tool. The program is based on the Orton-Gillingham method of reading instruction originally developed by neurologist Dr. Samuel T. Orton and educator Anna Gillingham. The IMSE reading program involves a daily, five-part 30-minute intervention. The reading program

offers a method of organized, direct instruction in phonemic awareness and application of phonetic rules and word-attack strategies. The reading program relies on directly teaching the fundamental structure of language, beginning with simple sound-symbol relationships and progressing logically to phonetic rules and word-attack strategies using multisensory methods. The first part of the program is called the three-part drill. The three-part drill is a review of all phonetic concepts known or taught including practicing phonetically regular words using all learning pathways: visual, auditory, and kinesthetic (VAK). The second part of the program involves teaching a new phoneme-rule using multisensory techniques for encoding and decoding words and writing/reading sentences. Vocabulary and syllable division are taught using a multisensory method in the third part of the program. Vocabulary words are taken from all components of the program, whereas syllable division of multi-syllabic words is based upon phonetic components which are learned. The fourth aspect of the lesson is devoted to reviewing and teaching non-phonetic and high-frequency words or both. The fifth portion of the program incorporates reciprocal reading strategies during oral reading. Reciprocal teaching, as developed by Palinscar and Brown (1984, 1986), is used to foster comprehension of orally read text by asking students to summarize, question, clarify, and predict from text (Liuzzo, 2003).

The IMSE reading program in this study is aligned with the U.S. Department of Education and the National Institute for Literacy's (2001) guide *Reading: Know What Works* which is based directly on the reports of the National Reading Panel (2000) and the National Research Council (Snow, Burns, & Griffin, 1998) and delivers guidelines for reading teachers in Title 1 schools. In order to get meaning from print, students must understand the alphabetic principle, have phonemic awareness, and be supported by direct teaching of sound-symbol relationships.

The guide indicates that phonics is an important reading skill and that building phonics skills such as decoding is most effectively done through explicit, systematic instruction. Among the skills needed for building comprehension are summarizing, questioning, clarifying, and predicting, all of which are embedded in IMSE's reciprocal teaching. A study in an inner city school provided empirical evidence that multisensory methodology guided by Orton-Gillingham is effective in improving reading (Joshi, Dahlgren, & Boulware-Gooden, 2002). This was a timely study because, as the authors indicated, almost all prior studies were in clinical settings with special populations or small-group settings, and empirical support for the added benefit of multisensory techniques had not been demonstrated. Jones (2001) reported that Multisensory Structured Language Education (MSLE) has been practiced by teachers and clinicians since the earliest teaching guides (e.g., Montessori in 1912) and that current findings such as those studying the relationship between brain function and learning have brought us closer to understanding why generations of teachers have been committed to MSLE.

The purpose of this investigation was not to separate and examine individual components of the IMSE supplemental reading program; the purpose was to study the effectiveness of this program in a real-world setting in which the teachers in the treatment group implemented this program and the comparison group teachers did not. Specifically, after instruction in the first grade, did treatment group children perform significantly better than comparison group children in basic reading fluency skills as measured by Phoneme Segmentation Fluency, Nonsense Word Fluency, and Oral Reading Fluency subtests on the *Dynamic Indicators of Basic Early Literacy Skills*?

Method

The current intervention study was based on the revised IMSE program (2000) and reciprocal teaching. Because the reading program instruction and materials combined auditory, visual, and kinesthetic learning styles, it is called *multisensory*. Each lesson is designed to use two or more multisensory modalities. This investigation was planned, coordinated, and carried out by three individuals who contracted with the IMSE to conduct the study. The lead member of this research group was the liaison between the IMSE and the district. A contract between the district and the IMSE was signed, with a clause that the trained teachers would use the IMSE program in their classrooms a minimum of 30 minutes a day, five days a week for the school year and that they would put forth a good faith effort in implementing the methodology, the required assessment procedures, and the protocol required. District administrators distributed information about the study to school principals. Dissemination of information about

the project to the teachers was the responsibility of the school district and principals; it was not under direct control of the research team. The three schools volunteering to be a part of the treatment group were required to have the full commitment of principals and all their first-grade teachers.

Classroom teachers, lead teachers, and literacy coaches from these three schools participated in 30 hours of training in a one-week summer session. During the 30-hour training, teachers learned the theory and practice of the IMSE method of language instruction including the five parts that comprise the IMSE reading intervention program. Materials distributed to teachers to implement the IMSE method included syllable division cards, red word screens, and teacher card packs as well as other classroom materials (e.g., sand trays, sand, blending boards, red word screens, and controlled readers). The training content included student assessment of the above skills and guidelines for weekly lesson plans to achieve student learning objectives. Upon completion of the training, teachers had the tools to implement this program into their current curriculum.

One of these three treatment schools chose to drop out of the study when school began in the fall, indicating that they would continue to use the supplementary reading program and materials, but would not be part of the study. The research team agreed that this school would not be part of the comparison or treatment group. The study's liaison identified a replacement school for the treatment group to replace the school that was initially part of the study. Teachers in this newly participating school received training in the program using video tapes of the 30-hour summer training session with supplementary on-site training from the IMSE trainer. Training was completed in November, and full implementation of the supplemental reading program in this school began in December.

In addition to the 30 hours of training, the Institute for Multi-Sensory Education's trainer made three teacher-directed visits to the classroom of teachers participating in the study in October, February, and May. To guide this process, teachers completed a request form before each visit to specify the kind of consultation that would be most beneficial to the teachers, such as demonstration lessons, reviewing assessment data, or addressing the needs of individual students.

The study applied multiple measures to assess the effectiveness of the training and quality of program implementation. Three of the summer training sessions were observed and evaluated by the research team using a professional development observation protocol (Shaw, 2003). An implementation checklist, developed by the research team in collaboration with the trainer, was used during each of the three classroom visits (Drake, 2006). The checklist included sections on assessment, the three-part drill, teaching a new concept, organization, red words (phonetically irregular words), decoding of multi-syllabic words, and reading comprehension. Teachers completed opinion surveys during the summer training and at the end of the school year to assess their satisfaction with the IMSE program.

Student progress was measured, using the Dynamic Indicators of Basic Early Literacy (DIBELS) reading assessment (Good & Kaminski, 2003), which was designed to assess the five major skill areas in early reading identified by the National Reading Panel (NICHHD, 2000) and the National Research Panel (Snow et al., 1998) including phonemic awareness, phonics, vocabulary, fluency, and comprehension. In first grade, DIBELS primarily assesses three skill areas: phonemic awareness, alphabetic principle, and fluency with connected text. These skills are measured using the DIBELS subtests termed Phoneme Segmentation Fluency (PSF), Nonsense Word Fluency (NWF), and Oral Reading Fluency (ORF), respectively. In first grade, PSF and NWF are administered during fall, winter, and spring benchmark assessment periods, while ORF is administered during the winter and spring benchmark assessment periods.

DIBELS benchmark target scores represent minimum acceptable scores that predict future reading success for a child (Good, Simmons, Kame'enui, Kaminski, & Wallin, 2002). Based on the predictive validity associated with individual DIBELS measures, children should be proficient in phonemic awareness skills by the end of kindergarten, alphabetic principle skills by the middle of first grade and appropriate fluency and comprehension skills through later grades (Good et al., 2002). Preventing reading failure in later grades involves identifying skill deficits as early as possible in kindergarten and first grade, and providing targeted instruction based on these deficiencies. Additionally, DIBELS assessments separate student scores into risk categories from lowest to highest (i.e., low risk,

some risk, at risk) based on the probability that a student will attain desired future reading outcomes based on current skills. Students identified as *low risk* have approximately an 80% chance, those in the *some risk* category have approximately a 50% chance, and children in the *at risk* category have a 20% or lower chance of meeting the next DIBELS benchmark target score. In-depth descriptions and information on the reliability and validity of the PSF, NWF, and ORF DIBELS assessments are provided by Good and Kaminski (2003). Schools included in this study had used DIBELS to assess student achievement since the 2001-02 school year. DIBELS data used in this investigation were collected by test administrators trained in appropriate DIBELS protocol (Good & Kaminski, 2003) during the fall, winter, and spring benchmark assessment periods of the 2005-06 school year.

Participants

Treatment group participants came from three elementary schools in a school district with approximately 18,000 students in a suburban school district in the state of Colorado. In the district, 50% of the students are Hispanic; 47%, White; 1%, African American; 1%, Native American; and 1%, Asian. Two of the treatment schools were *low*, and one was *average* in overall academic performance as measured by the statewide assessment measure,

Colorado Student Assessment Program (CSAP). For the nine comparison group schools, four were *low* and five were *average* in overall academic performance. The average school enrollment stability was 97% and 96% for the treatment group and comparison groups, respectively. The treatment group included 227 students (51% male and 49% female) who were primarily Hispanic (56%) or White (41%). The comparison group included 535 students (52% male and 48% female) who were also primarily Hispanic (59%) or White (39%). Two of the three treatment group schools and five of the nine comparison groups were Title 1 schools. Only students with complete data for fall, winter, and spring benchmark assessments were used in analyses (i.e., casewise deletion). As a result, 224 children from the treatment group and 476 children from the comparison group remained in the study throughout the school year.

Results

Implementation Results

Two members of the research team recorded capsule ratings equal to “4” (4: *accomplished, effective professional development*) for the three observed training sessions on a scale of 1 to 5 (5: *high*). Ten teachers completed a survey at the end of the first day of training in which they rated from 1 to 5 (5: *excellent*; 4: *good*; 3: *satisfactory*; 2: *fair*; and 1: *poor*) the day’s training and their enthusiasm for being part of the study. Mean ratings were 4.5 for trainer’s ability to hold participants’ attention, trainer’s effectiveness in answering questions, written information, the three-part drill, and interest in *learning more tomorrow*. The mean ratings for overall training organization and respondents’ enthusiasm for being part of the study were 4.4 and 4.1, respectively. At the end of the second day the mean rating for enthusiasm for being part of the study had increased to 4.4, and the mean overall training rating was 4.7. In addition to conducting surveys, discussions with the participants were led by the research team at the end of the third, fourth and fifth days. The research team and trainer emphasized the importance of consistency of implementation with regular instruction supplemented with 30 minutes of reading instruction each day using the IMSE program. Teachers were asked to track the number of days each student received the additional 30 minutes of reading instruction using the IMSE program. During the school year, none of the teachers tracked the number of days students received the additional 30 minutes of training.

The teachers from the school that received their initial training by video and an on-site session rated their initial training retrospectively at the end of the school year using the same rating scale (1 to 5, with 5: *high*). The ratings recorded by these three teachers were 5, 4, and 4.

In all three schools, the IMSE program was implemented in small groups (e.g., students with similar lettersound abilities were kept together) for 30 minutes daily. Two of the schools implemented the IMSE program for nine months, while one school began the project in December and, thus, implemented it for six months. The supplemental program’s progress monitoring assessment objectives were met.

Nine teachers from the three treatment schools completed an evaluation form at the end of the school year on which they rated their implementation of the IMSE program from 1 to 5 (5: *excellent*; 4: *good*; 3: *satisfactory*; 2: *fair*; and 1: *poor*). The mean overall implementation rating was 3.9 across all nine teachers at three schools. Research team classroom observers rated implementation of the supplementary program *satisfactory* for the treatment group as a whole. All nine teachers indicated they would recommend the IMSE supplemental reading program to other first-grade teachers in their school and in the school district. Eight of the nine teachers indicated that they would implement this reading program in their classrooms the following year if they taught first grade.

Discussion

As discussed previously, it is important for early literacy programs to prevent reading difficulties before they occur and to rectify them as efficiently as possible once skill deficits are detected. Overall, this study provided evidence that the IMSE supplemental reading program helped students at treatment schools acquire phonemic awareness (PSF) and alphabetic principle (NWF) skills more effectively than students at comparison schools. Since phonemic awareness is a skill that should be established in kindergarten, first graders who lack proficiency in this area need to have this deficit addressed as quickly in the year as possible. Phonemic awareness skills were improved during the school year most effectively for students in the treatment group as evidenced by changes in statistical measures of dispersion and the percentage of students who scored at or above the DIBELS benchmark target score during the winter and spring benchmark assessment periods. Treatment schools had a smaller range of scores on PSF during the winter and spring assessments than did comparison schools, indicating that student scores became more homogeneous at treatment schools during the year. This result is important because student scores became more homogeneous concurrent with an increase in the percentage of students who attained the DIBELS benchmark target score. As such, the results represent an increase in the rate of improvement for the lowest-performing students (i.e., those at the greatest risk for reading failure). Students whose scores were at the 25th percentile in the distribution of PSF scores from the winter benchmark assessment exceeded the DIBELS PSF benchmark target score at treatment schools but were below the benchmark target score at comparison schools. Students whose scores were at the 5th percentile in the distribution of PSF scores from the spring benchmark assessment exceeded the DIBELS PSF benchmark target score at treatment schools but were below the benchmark target at comparison schools. The treatment group transitioned 25% of students from *some risk* to the *low risk* on PSF between fall and winter compared with 20% of students who made the same transition in comparison schools. In the spring, 95.5% of treatment group and 92.6% of comparison group students were in the *low risk* PSF category, and as significantly, only 0.9% of students in the treatment group remained in the *high risk* category. Exceeding the DIBELS benchmark target score, or moving to a lower risk level, means that the probability of future success is increased for these students. In other words, demonstrated proficiency in this foundational reading skill helps unlock the potential for progress in higher order skills (e.g., reading connected text, comprehension).

Students at both treatment and comparison schools made similar progress in the alphabetic principle as measured by NWF, during the first half of the year, but the rate of progress at treatment schools was greater than comparison schools over the last half of the year. Liberman, Shankweiler, and Liberman (1989) identified that mastery of the alphabetic principle is dependent upon one's strength in phonological awareness. It is possible that the improved phonemic awareness skills developed by treatment students during the first half of the year translated into accelerated gains on the alphabetic principle during the last half of the year. If this presumption is accurate, it would lend support to the importance of remediating skill deficits as quickly as possible in early grades. No substantial differences in the ability to read connected text as measured by ORF, were observed between treatment and comparison students.

This result is not surprising since phonological awareness has long been identified as a precursor to skilled reading and that the development of word recognition is constrained by poor phonological decoding. Lower-performing students at treatment schools who made substantial progress in phonemic awareness and the alphabetic principle would not be expected to show significant gains on reading connected text until after becoming proficient on precursor skills. While data for this study were only collected during first grade, it would be informative to analyze longitudinal data for treatment students to determine if foundational skill improvements in first grade lead to significant progress in reading connected text in second grade.

Conclusion

This study provides strong evidence to support the conclusion that the Institute of Multi-Sensory Education's supplemental reading program led to accelerated acquisition of, and increased student proficiency in, phonemic awareness and alphabetic principle skills for first-grade students when compared with students who did not receive the program. These results are similar to those identified by Joshi et al. (2002) who determined that children who received systematic IMSE-based phonics instruction performed better on tests of phonological awareness and decoding than students who did not receive the additional instruction.

Previous research indicates that the better a young child is at segmenting words into their individual sounds, the more likely they are to read and the faster the reading process develops. Several studies have also shown that children having difficulty developing good decoding skills during early grade levels will likely develop reading problems during later grades. It is, therefore, highly probable that skill improvements documented for students who received the supplemental reading program in this study will translate into improved reading outcomes in later grades for these students. Another particularly interesting result of this study was the increase in alphabetic principle proficiency demonstrated by Hispanic females.

Reference 3

http://www.orton-gillingham.net/oswego_research.pdf

**Oswego Community School District 308, Oswego, IL
Institute for Multi-Sensory Education Professional Development, School Year 2008 - 2009**

Oswego, Illinois is a southwest suburb of Chicago with a total enrollment of just over 14,000 students. The racial/ethnic backgrounds of these students are: 64.8% white, 8.1% black, 17.2% Hispanic, 5.2% Asian/Pacific Islander, 0.2% Native American, and 4.3% Multi-racial/Ethnic. The low-income rate is 10.9 and the limited English-proficient rate is 3.8. The mobility rate is below the state average at 8.3. Oswego is a fast growing district, growing from four elementary schools to thirteen in less than ten years.

Our Reading Department expanded as well from less than ten members to currently over thirty. Professional development and fidelity to implementation were critical to the continuity and effectiveness of our services to our most struggling readers. With this in mind, our district contracted with the Institute for Multi-Sensory Education (a program that uses Orton-Gillingham methods for teaching reading) for 30 hours of comprehensive training for our Reading Professionals that serviced our primary at-risk students. This professional development provided the essential training they needed to be as successful as possible, as well as a framework for a unified delivery of this powerful intervention. Reading Professionals were given a survey after participating in this initial training. Over 97% of them found this training to be valuable and would recommend it to fellow teachers. Our results from this training were consistent and effective in enabling 76% of the 225 identified first grade at-risk students to reach target comprehension and word decoding scores on the Gates-MacGinitie Reading Test.

During May of the 2008-2009 school year, these targeted at-risk students were administered four diversified assessments to document their reading achievement. Here are the assessment results of the 225 at-risk first graders after participating in this reading intervention for thirty minutes a day, five days a week in small groups of approximately four students. These small groups were serviced in a pullout setting by a Reading Teacher or a Reading Specialist.

<i>Assessments Administered in Spring 2009</i>	<i>Reading Skills Assessed</i>	<i>Target Score</i>	<i>Average Score of the 225 identified at-risk first graders</i>
Gates-MacGinitie Reading Test *Administered in small groups by Reading Professionals	Word Decoding and Comprehension	40 th percentile or higher	59 th percentile rank
AIMSweb R-CBM Benchmarking Probes *Administered individually by classroom teachers	Fluency	59 words read correctly in one minute is at the national 50 th percentile	63 words read correctly in one minute
Observation Survey: Text Reading *Administered individually by Reading Professionals	Determine the appropriate level of text difficulty	*Text Level 20 is the random sample average according to Reading Recovery	**Text Level 18
Darrell-Morris Developmental Spelling Test *Administered whole class by classroom teachers	Spelling Stages	The transitional/correct stage range of 67-90	78

*National Data Evaluation Center (2008). *2007-2008 Reading Recovery Statistical Abstract for the U.S.* (NDEC Rep. No. 2008-04). Columbus: The Ohio State University.

**The average would have been higher, but due to the time consuming task of administering this assessment, the Reading Professional stopped at text level 20.

***The Reading Professionals, classroom teachers, and Reading Coordinator compiled all data with the utmost integrity. Oswego CUSD 308, Reading Professionals, classroom teachers and Reading Coordinator are not responsible for unintentional human errors.

Reference 4

Academy of Orton-Gillingham Practitioners and Educators Web Site (Overview)

<http://www.ortonacademy.org/approach.php>

Reference 5

"Orton Academy Website". Academy of Orton-Gillingham Practitioners and Educators. (The Academy)

<http://www.ortonacademy.org/about.php>

Reference 6

"AOGPE Website". Academy of Orton-Gillingham Practitioners and Educators.

The Orton-Gillingham approach.JL Orton... - 1966 - Orton Dyslexia Society

Reference 7

Orton-Gillingham Approach. Florida Center for Reading Research. Retrieved 2007-05-23.

Reference 8

Ritchey, K.D.; Goeke, J.L. (2006). "Orton-Gillingham and Orton-Gillingham Based Reading Instruction: A Review of the Literature". *The Journal of Special Education* **40** (3): 171-183

<http://sed.sagepub.com/cgi/content/abstract/40/3/171. doi:10.1177/00224669060400030501>.

What Works Clearinghouse Intervention Report: Orton-Gillingham-based Strategies (Unbranded). US Dept of Education. July 2010. Retrieved 2011-3-14

Reference 9

Use of an Orton-Gillingham approach to teach a [foreign language](#) to dyslexic/learning-disabled students: Explicit teaching of phonology in a second language. RL Sparks, L Ganschow, S Kenneweg... - *Annals of Dyslexia*, 1991 - psycnet.apa.org

Reference 10

The structured flexibility of Orton-Gillingham. BB Sheffield - *Annals of Dyslexia*, 1991 - Springer

Multisensory teaching approach for reading, spelling, and handwriting, Orton-Gillingham based curriculum, in a public school setting. KS Vickery, VA Reynolds... - *Annals of Dyslexia*, 1987 - Springer

Reference 11

Phoneme awareness in language-delayed children: Comparative studies and intervention. N Warrick, H Rubin... - *Annals of Dyslexia*, 1993 - Springer

Reference 12

Dyslexia Revisited: History, Educational Philosophy, and Clinical Assessment Applications: KJ Rooney - *Intervention in School & Clinic*, 1995, "[AOGPE Website](#)". Academy of Orton-Gillingham Practitioners and Educators.

Highlighting

Brain research has shown that the kinesthetic act of highlighting, followed by summarizing, are very effective tools which can be used to improve reading comprehension.

Highlighting:

- Teaches the child to visualize what is read & form a movie in his/her head.
- Teaches the child to remember what is important.
- Improves the child's attention.
- Forces the student to slow down in reading a passage.
- Builds self-confidence in reading.
- Allows the child to summarize more easily.
- Develops higher level rational & conceptual thinking.
- Activates the orbito-frontal portion of the frontal lobes.
- Allows learned material to become part of long-term memory.
- Helps visual & tactile learners remember what is read.

Research indicates that summarizing a passage is an excellent way to remember what has been read. When student are able to put into their own words what they have read, they have improved comprehension and recall, and can answer most Common Core State Standards questions.

Reference 1

Reading Strategies for Struggling Readers: Annotating Text

<http://www.readinghorizons.com/blog/post/2010/08/04/Reading-Strategies-that-Work-for-Struggling-Readers.aspx>

The lack of **effective reading strategies** is often what prevents **struggling readers** from excelling with reading. Fortunately, you can **teach reading strategies** to struggling readers to help them improve their reading comprehension. Often, educators call these reading strategies “scaffolding” techniques because they help struggling readers build their way up to reading comprehension, much as a scaffold helps a construction worker to build upward from the ground.

One such scaffolding skill that you can teach to struggling readers is the **annotation of text**. This means, quite simply, that the reader “marks up” sections of text, either with a highlighter or underlining, and makes notes in the margin in his/her own words, to ensure understanding.

Annotation helps build three key **reading skills**. When annotating a text, the reader:

1. Formulates questions in response to what he is reading
2. Analyzes and interprets elements of poetry or prose
3. Draws conclusions and makes inferences based on explicit and implicit meaning

In order for this to be effective, it is **essential that you show your struggling readers how to highlight and annotate a text**. Otherwise, **the student will probably lapse into highlighting every word, which doesn't help him to identify key concepts**.

As you use these **teaching strategies**, you should discuss with the students the purpose of highlighting. Each student will have different purpose for highlighting depending on their own skill set and reading struggles.

For example:

*Students that struggle with **understanding what they read** (reading comprehension), benefit from highlighting because it helps them focus on identifying the main ideas of a text.*

Showing **struggling readers** active strategies like **annotating** gives them concrete tools to be able to interact with text and find small, immediate successes. The more students practice **effective reading strategies**, the more natural they will become, and the closer to *absorbing* text they will get.

Reference 2

Strategies for Reading Comprehension: Selective Underlining

Jones, R. (2006). Strategies for Reading Comprehension: Selective Underlining. Retrieved 2008, April 14, from <http://www.readingquest.org/strat/underline.html>

What Is Selective Underlining?

Well, there's underlining, and there's **underlining selectively**. [By the way, even though I'm using the word "underlining," you can feel free to know that that **also means highlighting**.] The way to make underlining useful as a tool for comprehension is for it to be strategic, selective, and purposeful. The underlining must be undertaken toward particular ends.

Do you remember how wonderful it was to discover the highlighter, perhaps when you were in college? I know that for me, I was more likely NOT to read the stuff I was highlighting. For some reason, that's the effect that a highlighter had on me. Or maybe I'd look back at the selection and find I'd pretty much colored the whole darn thing yellow. With selective underlining (and highlighting!), **the idea is to underline ONLY the key words, phrases, vocabulary, and ideas that are central to understanding the piece**. Students should be **taught this strategy explicitly, given time and means to practice, and reinforced for successful performance**.

How Can I Teach My Students to Selectively Underline?

There are several ways to go about it. You may be saying, "Selective underlining is all well and good, but have you eggheads up in the university forgotten that we use textbooks, and that our kids only get to use them for the year, but we have to use them at least five years??" That's a fair question, so how can you teach this strategy anyway?

1. First of all, let's realize that **not every single bit of text you have students read is in a textbook** and untouchable.
2. Second, consider **seeking out appropriate content sources**, such as newspapers, that students can indeed learn this strategy with while still pursuing meaningful social studies goals.
3. Third, think about how you can get around the problem of textbooks that can't be marked in. For instance, in order to teach the strategy, you might photocopy a page or two out of the text that students use and distribute it to them. Make an overhead of that selection for yourself. **Model for them** and **guide them in practicing the strategy** on the photocopies. Alternatively, if you have enough of the materials available to you, give each student a sheet of transparency film, some paperclips, and some overhead pens. Let them practice directly on their texts by using the transparencies.

Think about how this strategy would work when combined with power thinking. Students might put a box around Power 1 ideas; an oval around Power 2 ideas; and an underline under Power 3 ideas.

Students might also use different colors in their underlining. Power 1s could be blue, Power 2s could be red, and Power 3s could be green.

Practice selective underlining for different purposes: underline key vocabulary and its definitions or explanations, and use this as an opportunity to focus on how authors reveal the meaning of new terms within the context. Or have students underline cause and effect. Or ask them to underline the facts and concepts that support a particular viewpoint, as might be useful with a strategy such as Opinion-Proof. Remember, you're limited only by your own imagination with teaching and applying selective underlining.

Reference 3

Teaching Children How to Highlight as They Read

<http://suite101.com/article/teaching-highlighter-skills-a74727>

The question about highlighter skills is not whether to teach them, but when to teach them. Highlighter skills are useful towards helping students improve reading comprehension and learn good study habits. Think carefully about what text to have the students read and what highlighting skills to teach them.

Highlighter Skills to Improve Reading Comprehension

Highlighting will help to promote better reading comprehension. Students who highlight as they read are learning to identify the important points, and are paying close attention to what they are reading so that they highlight the appropriate text. Focusing on the text in this way enables greater learning and deeper comprehension.

Highlighting also helps both visual and tactile students remember what they are reading and will aid in studying the text independently. For visual learners, the highlighted portions of text will stick in their heads better as a visual reminder of the important facts in the text. For tactile learners, the physical act of highlighting helps them to remember the important facts.

Picking a Text to Highlight

When choosing a text to teach highlighter skills, think carefully about the students' reading level. The text should be at an independent reading level for all students, so that the act of reading is not the focus of the activity. It may be prudent to choose a text that is written a grade level below where your students are currently reading, and that includes more than one paragraph.

Teaching Highlighting Skills

When deciding what to teach students to highlight, think through the things you would highlight when studying a college text book. Students need to look for the main idea, key points, and any other important information. Ask students to think about what information might end up on a test, and highlight that.

Teach students to not highlight an entire paragraph. Look for and highlight new information. They need not highlight even an entire sentence if only part of the information is important.

When going back to study a highlighted text for a test, teach students to read the highlighted parts and not the entire text again. The point of highlighting is to remember where the most important pieces of information are found within the body of the text.

Students as young as second grade can learn how to use a highlighter when reading an informative text. Proactively teach highlighting skills, and do not expect a child to understand what is important to highlight, even if he is able to articulate the key facts in the story.

Reference 4

Selective Underlining/Highlighting Strategy

<http://fchsreading.wikispaces.com/file/view/1+Selective+Underlining+Strategy.pdf>

What is it?

We have all had the experience of suggesting that students highlight the text that they are reading, only to watch them indiscriminately highlight nearly every word on the page. It is clear that learning how to highlight a text as a part of a reading strategy requires some instruction, including some modeling and guided practice. If done well, highlighting can become a very effective reading tool; if done poorly, it is most likely a waste of a student's time, energy and ink. Selective underlining/ highlighting is most effective when combined with marginal annotations that help to explain the highlighted words and phrases.

The following lists provide a simple set of goals and guidelines that students could use to increase the effectiveness of their selective underlining/highlighting and, as a result, improve their comprehension and understanding of a text.

Purposes/Goals of Selective Underlining/Highlighting

Capture main ideas / key concepts / details of a reading

Target, reduce and distill the needed information from a text

Strengthen reading comprehension

What does it look like?

1. Choose a focus or framework for your highlighting. Ask yourself: **What is the purpose or intended goal of this particular reading?** (e.g. **Main ideas only?** **Supportive details** for an interpretive claim you are making? **Definitions and examples of key vocabulary**?) After you determine the focus, **highlight only the targeted information.**
2. If possible, **do not highlight on a first reading of a text.** Rather, divide a page into **manageable chunks** and read a section once. Then skim the section again and highlight on the second reading. If you try to highlight on the first reading, you may not have a clear sense of the key ideas/concepts or important/relevant details.
3. **Eliminate every single unnecessary word in a sentence as you underline or highlight.** This method should still allow you to make sense of a sentence or section when you reread it. Do not underline/highlight entire sentences unless it is absolutely necessary.
4. You may want to **use multiple colors** in your highlighting process. For instance, choose one color for main ideas and another color for supportive detail that may help in sorting the information when you study the material or collect information for a paper, exhibition or project. You may want to use a color to indicate facts or concepts on which you would like clarification or pose as questions.

5. Remind students that they should never highlight or underline more than 25% of a passage. To teach students to limit their highlighting, begin by asking them to pick only one “most important word” from each sentence.

Reference 5

Highlighting for Understanding of Complex Text

<http://www.radteach.com/page1/page8/page11/page11.html>

Published in *The National Teaching and Learning Forum*. 2005 14(6): 1-4

Judy Willis, M.D, M.Ed.

Teacher: Santa Barbara Middle School

Most teachers enjoy challenging their students and extending students’ critical thinking skills. Few joys compare with seeing a student grasp the big picture, connect and relate previous learning to something new, and discover the satisfaction of an “Ah-ha” moment. However, with larger classes and more material to cover in less time, it’s not always possible to engage in Socratic methods with empirical or inductive dialogue to bring students up to their potential as high level thinkers. But **brain-based research** and **colored marker pens** can help teachers **provide the necessary scaffolding** and guide their students with to **develop their powers of interpretation, analysis, and abstraction.**

Many students are limited in their prior experience in higher cognitive analysis of complex written text. They have either been taught to the standardized test or are products of the digital-audio-visual era with its emphasis on immediate gratification without encouraging critical feedback. Sheridan Blau teaches in the departments of English and education at the University of California, Santa Barbara, where he also directs the South Coast Writing Project. His believes that, “Over-instruction or giving predigested interpretations to students results in a limited conception of what competent readers go through to produce meanings from what they read. Most student readers function largely as welfare recipients in the economy of literary and other academic interpretation and instruction. We want to give students the experience of successfully interpreting difficult text, and liberate students from interpretive welfare. The goal is to build in students a greater tolerance for difficulty or failure. Confusion represents a high state of understanding. The act of interpretation doesn’t occur in reading unless you feel something is wrong – something makes you uncomfortable. From there you seek and reach a new perspective and the richest parts of the understanding and connection with the material.”

As part of the South Coast Writing Project, Blau demonstrated a teaching technique to the fellows in the writing project that I have subsequently applied to help students connect with and critically interpret not only literature, but also information in philosophy, psychology, and history texts. Blau’s comprehension of text strategy reflect the way competent readers move haltingly and recursively

toward the satisfactory interpretation of difficult text without “interpretive welfare.” To demonstrate the strategy, Blau gave the member of the workshop copies of a challenging, obscure poem that not a single member claimed to fully interpret after a single reading. He next directed participants to use **three different transparent colored markers**, read the poem three more times, and each time underline any text we didn’t understand. In his instructions, he noted that strong readers pay more attention to what they don’t know because they think that what they notice, but don’t quite understand, is worth pondering.

Not surprisingly, the participants discovered that they understood more of the poem each time they read it. The process of underlining focused attention on the phrases they would have skipped as “too hard.” They persevered because they were obliged in color to return to these lines. They found themselves enjoying the “feel” of the markers, the positive reinforcement of each insight, and the discovery that solving one piece of the puzzle helped them when they returned to earlier points of confusion. The exercise went beyond simple reading and rereading, because there was the active, visually enhanced process of increased time spent with the complex lines by virtue of slowing down to highlight them. In addition, looking at the decreasing amount of text underlined with each color was encouraging and built confidence.

That experience provided a set of self-management skills, concentration, persistence, and courage, in the face of intellectual difficulties. By extrapolation I have used the colored pen technique to light the way for students to reach higher levels of thinking, abstraction, and conceptualization regarding the material they read in other subjects where interpretation is important. As one would expect, the scaffolding afforded by the colored markers eventually becomes unnecessary, because as students become adept at the process, they are simultaneously developing their higher levels of thinking, abstraction, and conceptualization. They discover that they can achieve the same degree of understanding by focused rereading. The end result is that they learn the material they need, but not because it is processed through superficial rote memory from notes or lectures that predigest the material, but rather through their own relational and conceptual thinking utilizing their higher-level executive function skills.

What’s Happening in the Brain That Moves the Hand That Controls The Marker?

Perhaps what may sound like a “gimmick” may garner the appropriate respect and attention from skeptical readers when they understand the science behind how this technique is promoting learning. Behind the colored markers, the technique works like this: **Executive functions**, centered in the orbito-frontal portion of the frontal lobes, include **higher reasoning, abstraction, synthesizing, critical analysis, comparison/contrast, and judgment**. As brain research has found, this **processing results** in the learned material becoming **part of long-term memory** available for **retrieval and subsequent critical thinking connections far beyond the classroom**.

The brain is divided into lobes, each with many functions, each interconnecting to the other lobes through nerve pathways or circuits. Areas in the frontal and temporal lobes are integral in executive attention – alerting the rest of the brain to pay attention or respond to stimuli. In learning, the stimuli

are the bits of sensory information students see (through their eyes or by internal visualization after reading text), hear, feel, smell, touch, or experience through movement. There are even more specialized brain regions that have been revealed through neuro-imaging and brain mapping while subjects are in the process of moving information from sensory data to these centers of executive function. When new information is actively learned and stored, the first areas activated (lit up by increased metabolism seen on PET or fMRI scans) are the somatosensory cortex areas, one in each brain lobe, where input from each individual sense (hearing, touch, taste, vision, smell) is received and then classified or identified by matching it with previously stored similar data.

Next in the sequence of memory storage is the limbic system, comprised of parts of the temporal lobe, hippocampus, amygdala, and prefrontal cortex (front part of the frontal lobe). Studies of the electrical activity (EEG or brain waves) and metabolic activity (from specialized brain scans) show the synchronization of brain activity as information passes from the somatosensory cortex sensory processing areas to the limbic system. For example, bursts of brain activity from the somatosensory cortex are followed milliseconds later by bursts of electrical activity in the hippocampus and then other parts of the limbic system before being passed along to the executive function centers. This is the one of the most exciting areas of brain-based memory research because it offers educators a view of the brain while it is processing new information. This provides empirical evidence with which to evaluate the techniques and strategies that stimulate and those that impede communication between the parts of the brain when information is processed and stored.

Engaging in the process of learning actually increases one's capacity to learn. Each time a student participates in an academic endeavor, a certain number of neurons are activated. When the action is repeated, such with a new color marker during each rereading, these same neurons respond again. **The more times one repeats an action, the more connections are made from the new memories to previous related knowledge.** If previously stored, related memories can be activated, or brought back on line, they travel back to the hippocampus and nearby regions of the temporal lobe where they are connected to the new information. **The brain then makes the conscious connection between these stored memories and the new information.**

When students process information through multiple sensory intake centers in their brains (visual reading, auditory reading out loud or with a partner, color stimulation of the highlighting, and the positive emotional connections to past "coloring" activities when coloring meant childhood fun, the information to be learned is connected to multiple senses and positive emotions. This excites more of the brain, increasing stimulation of executive function centers. Part of this process is due to the brain's plasticity. When new information is input using several sensory systems, the brain's plasticity builds additional dendrites to form more networks of information communication. For example, offering the information visually will set up a dendrite/neuron connection with the occipital lobes, the posterior lobes of the brain that processes visual input. Subsequently or simultaneously presenting the same material by sound will build an auditory dendritic circuit with the temporal lobes. The temporal lobes process sound and play an important role in the regulation of emotion and memory processing because they are part of the limbic system. This duplication of pathways results in greater opportunity for future

cues to prompt the brain to recall related stored information and make connections and higher-level interpretations.

A “Colored” Brain

As the highlighting lesson progresses, students feel more capable of doing higher order thinking independently. When students have the opportunity to actively think for themselves, they become self-learners. The person who does the work (thinks) is the one who learns. When students are ready to respond in class discussion, open-ended questions with multiple possible responses encourage more students to be the thinkers. When some students do begin to respond with what they believe are factual answers or correct assumptions, asking them to explain their thinking and give evidence for their ideas allows others to actively listen and clarify their own interpretations.

A student must care enough about new information or consider it important, for it to go through the limbic system, form new synaptic connections, and be processed in executive function centers of the frontal lobe. Having students relate new information in the engaging process of highlighting personalizes it and increases its importance to them. This process has the built-in positive emotional experience of the “play” of coloring and the success that results from feelings of accomplishment, pleasant social interactions with classmates or teacher, or specific acknowledgement and praise. This emotional connection is particularly applicable during early college years when the influences of emotions and hormones are greatest, making this a particularly significant time for teachers to use strategies that make the most of the heightened emotional state of students.

Color Me Dopamine

The chemical neurotransmitter that appears to most impact the activity state of the limbic, attention, and executive function systems is dopamine. Dopamine has long been associated with attention and attention disorders in the frontal lobes. Dopamine carries information across synapses in the networks and circuits involved in decision-making and executive control. In the frontal lobes and the amygdala, there is an optimal stimulation state where brain stimulation and activity is enhanced with some types of reward-dependent learning. This is reflected in neuroimaging that measures dopamine levels in these brain regions.

Research evidence indicates that when reward or positive reinforcement is part of a lesson, dopamine activity increases in these brain regions to the point that there is an opening of the gates and passages through the limbic system to the executive function control centers. Dopamine responsive brain cells in the amygdala and elsewhere in the limbic system may be where the brain “makes predictions” about possible rewards by releasing the dopamine in response to cues that rewards are possible. The dopamine then activates the neural pathways to prompt the behavior to achieve the rewards it predicts. This research, and an even newer area of brain research related to mirror neurons (which play a part in learning language and linguistic interpretation) suggest that the pleasure and achievement-based rewards of this highlighting color process can change the way students will relate to challenging text in the future.

Metacognition

Metacognition, knowledge about one's own thoughts and the facts that influence one's thinking and learning can optimize future learning. With all the information neuroimaging and brain mapping has yielded about the acquisition of information, some of the best strategies are still those that students recognize themselves. Research has demonstrated that optimal learners knowingly practice distinct learning behaviors that they have acknowledged as successful for them. **After a lesson with the colored highlighters, it is beneficial for students to recognize a breakthrough success in the learning processing that they experienced that day, and consider what they did right.**

The Future

When executive function brain research is applied to the classroom it not only drives the learning process, but also allows instructors and professors to energize and enliven the minds of more students. As the research continues to build, it will challenge educators to develop and utilize new strategies that bring the insights gleaned from brain-based research to their interactions with students, their pedagogical practice. That will be a fascinating and exciting challenge to meet.

I have seen the work students have produced after they leave my highlighting class and am confident that a set of markers helped them **brighten the executive thinking portions of their brains.** Demonstrating this technique with students has helped them sharpen their critical thinking and capacity for abstraction so these skills. It sounds almost naïve to assert that **a few colored markers can help prevent important learning skills from being extinguished by frustration and negative experiences with a challenging text,** but I've found that they have. I urge you to try this approach to surmounting difficult texts with your students.

FLUENCY

What is Fluency? Fluency Development: As the Bird Learns to Fly

http://www.scholastic.com/teachers/article/collateral_resources/pdf/w/WhatIsFluency.pdf

by Maryanne Wolf

At this very moment your attentional systems are engaged; your conceptual curiosity has been piqued by the simile of a bird's flight; and your visual system is swooping quickly across the page, forwarding its gleanings without a single conscious effort to the multiple cognitive and linguistic systems that await its work. There is more. The latter linguistic systems are rapidly transforming these subtly differentiated visual symbols into sounds and words capable of transforming our thoughts, our actions,

Indeed, sometimes our lives. This is the teeming underlife of reading, and a great deal rests upon our ability to activate all of these processes accurately and fluently. Despite the three-ring cognitive performances going on inside their heads,

Adult readers rarely give reading's automaticity a moment's reflection unless confronted by its absence: for example, in a child first learning to read, where the greatest amount of thought and effort is given to every letter and word; or in the rare, tragic aftermath of a stroke or brain injury that renders a person alexic and able to read only in the most labor-intensive fashion. In both of these examples, what is missing is fluency—that quality of written language that allows us to read with rapidly-executed skill and with almost effortless comprehension.

There is a third example of fluency's absence that is something between the other two examples and equally noteworthy. Many children with developmental reading disabilities never attain smooth, fluent reading, and, as a result, become increasingly behind their peers in a despairing game of catch-up that won't end well. The cycle of school failure is an only too well-known phenomenon to most educators. A bright child arrives at school full of life and excitement; tries hard like everyone else to learn to read; told by the first teacher to try a little harder; told by the second teacher that she/he is "not working to potential"; told by other children that she/he is "slow" or a "retard"; and told by society that everyone has to read well to get to college and to get a good job. By the time this child is in fourth grade there is no earthly resemblance to the child who entered school a few years before! Unless all children have their best shot at learning to read accurately, fluently, and with good comprehension, we will repeat this unnecessary cycle of personal failure and rejection and societal loss over and over again in school after school.

I begin this forward on "Fluency's Development" with unsettling examples of fluency's absence because I want to bring home two related points and their clear implication: first, fluency is more complex and essential than most people ever realize.

Second, the stakes are very high if children do not become fluent readers. Fluency, therefore, should be part and parcel of how we teach reading and how we teach teachers of reading. In other words we should be as explicit in how we help a child learn to read fluently, as we are in teaching a child to decode a word accurately. The rest of this forward will be organized around these two points, beginning at the beginning—with the complex nature of what fluency is.

Understanding Fluency

Until recently most people did not think very much about fluency at all. Years ago reading expert Richard Allington (1983) went so far as to say that fluency was “the most neglected” skill in reading. There is decidedly more attention given to the topic now, but there is still a great deal to learn about what contributes to our brain’s ability to integrate all the processes involved in reading in rapid, almost automatic fashion. Think for one minute at a deeper level about the opening paragraph’s description of what our brain does when we read: first, the attentional systems have to “engage”, and the frontal lobe’s executive systems have to line up the process-players for the particular task ahead.

Second, the visual system has to activate no fewer than six major “way stations” before the letters are identified as recognized visual patterns (representations). Third, the visual representations have to be connected to a great many component systems—the appropriate sound-based matches (i.e., phonological representations), the meanings (i.e., semantic representations), and also how the word’s roots (i.e., morphological knowledge) and sentence context (i.e., syntactic knowledge) affect the interpretation of meanings. Only after all these cognitive and linguistic processes are accessed and their representations are retrieved (i.e., the retrieval system) can either be a phonological plan for articulating the words smoothly (i.e., the articulatory system) with appropriate speech melody (i.e., prosody). And all of this has to happen in lightning fashion, or the end result is not fluent! If you could see how many areas in the brain are activated when we are asked to. The GOAL of Fluency Fluency, therefore, should be part and parcel of how we teach reading and how we teach teachers of reading. In other words we should be as explicit in how we help a child learn to read fluently, as we are in teaching a child to decode a word accurately.

Read—and, how quickly—you would appreciate anew the extraordinary achievement reading represents both in the brain’s evolution and in a single child’s development. But the point I wish to make here is more subtle than an appreciation for reading’s complexity. Until now the reading research world largely looked at fluency as the outcome of this entire set of processes. Indeed reading researchers Marianne Meyer and Rebecca Felton in an excellent review of this research described the consensual view of reading fluency as “the ability to read connected text rapidly, smoothly, effortlessly, and automatically with little conscious attention to the mechanisms of reading such as decoding” (Meyer & Felton, 1999, p. 284).

What is missing from this otherwise satisfactory definition is any mention concerning where this ability comes from: that is, how it develops, and what is necessary for it to develop. My colleagues and I suggest a differently organized, developmental and component-based view of fluency that goes below the surface of the consensual view of reading fluency. Along with Virginia Berninger (2001) and Ed

Kame'enui (2001) and their two research groups on the West coast, we seek to reconceptualize reading fluency as a developmental process, with many components contributing to it.

Like most changes in perspective, this reconceptualization demands a figure-ground shift from older views, with all the implications for pedagogy that such a shift implies. My colleague Tami Katzir (2001) and I have put forth a new, still evolving definition of fluency that has both developmental and multiple contributing processes at the core of it:

Fluency and Comprehension: The Link Fluency has little to do with speed, but a lot to do with the time it provides for comprehension, the ultimate goal. It would be very easy to misunderstand work on fluency as simply learning to read faster. In its beginnings, reading fluency is the product of the initial development of accuracy and the subsequent development of automaticity in underlying sublexical processes, lexical processes, and their integration in single word reading and connected text. These include perceptual, phonological, orthographic, and morphological processes at the letter-letter-pattern, and word-level, as well as semantic and syntactic processes at the word-level and connected text-level. After it is fully developed, reading fluency refers to a level of accuracy and rate where decoding is relatively effortless; where oral reading is smooth and accurate with correct prosody; and where attention can be allocated to comprehension.

Implications of Fluency Research for the Pedagogy of Reading

Such a definition makes several shifts, each of which has direct implications for the teaching of reading.

First, fluency is seen as a lengthy developmental process, which encompasses all the early phases of reading acquisition, and also all the levels of reading from sublexical letter fluency to word-level to connected text level fluency. This means that we need to have a dual emphasis on both accuracy and fluency at each stage of our teaching from the identification of letters to reading connected-text stories. At the present moment, the major emphasis (where it happens at all) is in the use of repeated reading, which is directed solely at the level of connected text.

Second, this reconceptualized definition of fluency is based on contributions from the linguistic systems that contribute to reading accuracy: phonological, orthographic, morphological, syntactic, and semantic. This means that we need as teachers to emphasize the importance of the full range of underlying linguistic systems. For example, knowing that the simple word "bat" has many meanings (semantic knowledge) and can be used in various ways in a sentence as a noun or verb (syntactic knowledge) can quite literally speed up the identification of the word, as well as its comprehension, during reading. At a still deeper level, think for yourself what you experience when you are asked to read the following words: *planum temporale*. Now if you just finished a course in neuroscience or brain anatomy, you would read that pair of words as a single term, because you know they refer to one particular region in the brain. But if you have never seen those words, you will slightly pause, potentially stumble, and read each of them much more slowly than usual. So it is with the child who doesn't know the meaning of a word on the page. Vocabulary knowledge is a contributing factor to more accurate, more fluent word identification.

Third, the goal of fluency has little to do with speed, but a lot to do with the time it provides for comprehension, the ultimate goal. It would be very easy to misunderstand work on fluency as simply learning to read faster. Comprehension is the hoped-for end, not rapid reading. To achieve that goal, we need to build increased automaticity both in the letter and word-level identification processes and also in the retrieval of information from contributing linguistic systems. In this way the child can better allocate time to the continuum of comprehension skills from comprehension-monitoring to inferential abilities. For example, the more time saved by fluent decoding, the more time a child can monitor the text for meaning, and infer the correct interpretation of the text.

Teachers need to be very explicit with children so that young students don't lose sight of their ultimate goal in reading: fluent comprehension.

To summarize, there is a new conceptualization of reading fluency that is beginning to emerge from reading research, and it has very significant implications for how we view the teaching of reading. Previous work emphasized the use of repeated reading techniques to increase fluency, and this remains an important technique after reading is already acquired. The view of fluency espoused here is, however, decidedly developmental and places repeated reading as one means among many that can be used from the start of acquisition—from the level of letters and letter patterns—all the way to connected text. This new view also places special importance on knowledge from multiple linguistic systems.

The Fluency Formula

The Fluency Formula program has been influenced by these broader, developmental concepts found in the changing view of fluency discussed here. In my work as a consultant to educators at Scholastic, my goal is to provide them with research principles that can help shape their offerings to children. I want to point out some of the key features in Fluency Formula that are especially well-suited to the teaching of fluency skills from my viewpoint. First, there are activities directed to each level of reading. For example, there are phonics speed drills that address letter and sight-words levels; there are phrase-cue text passages, and connected text "one minute fluency readers" that can be timed and used for repeated reading with partners. In our own experimental work (Wolf, Miller, & Donnelly, 2000) we have found these latter types of minute stories to be a rich resource for building fluency and comprehension. An especially important dimension of these stories is the personal timing and charting of each child's "words correctly read per minute" from week to week. The inclusion of a fluency norm chart encourages the teacher to assess and observe the progress of every child with relative ease. It is a wonderfully motivating, simple tool, which when used with the comprehension questions, can be a powerful influence for child and teacher.

Another key feature of singular importance is the inclusion of work in vocabulary in this program. As stressed throughout this foreword, fluency is not simply an outcome of reading, but the developing consequence of many years of work in various linguistic systems, particularly vocabulary development. I want to end this forward with a return to its beginning, with the title's allusion to the flight of birds, an image I owe both to Frank Woods for finding it and to William James for writing it. James wrote that....

So it is with children who learn to read fluently and well: they begin to take flight into whole new worlds as effortlessly as young birds take to the sky.

Wolf, M. & Katzir-Cohen, T. (2001). Reading fluency and its intervention. *Scientific Studies of Reading*. (Special Issue on Fluency. Editors: E. Kameenui & D. Simmons). 5, p. 211-238.

Wolf, M. (2001). Seven dimensions in time. In M. Wolf (Ed.), *Dyslexia, fluency, and the brain*. York Press: Timonium, MD.

Wolf, M. & O'Brien, B. (2001). On issues of time, fluency, and intervention. In A. Fawcett and R. Nicolson (Eds.), *Dyslexia: Theory and Best Practice*, pp. 124-140. Whurr Publishers: London.

Wolf, M. (2001) The Double-Deficit Hypothesis, fluency, and a new intervention for children with dyslexia. *Dyslexia Contact*. British Dyslexia Association.

Wolf, M., Miller, L., & Donnelly, K. (2000). RAVE-O: A comprehensive fluency-based reading intervention program. *Journal of Learning Disabilities*, 33, p.375-386. (Special Issue on the Double-Deficit Hypothesis: Special Issue Editors: M. Wolf & P. Bowers).

Wolf, M. & Deeney, T. (2000) A new direction: Fluency, phonology, and speakers of African-American English. *Perspectives*. The International Dyslexia Association. 35-36.

DOCUMENTED TEST IMPROVEMENT RESULTS

Results obtained using the **Highlighting Strategy** for students in Miami-Dade County Public Schools who were provided at least 20 hours of tutoring. The following scores were obtained:

Year	# of Students	% completing program	% making learning gains	Average % gain
2008 – 2009	282	99%	82% ¹	38%
2009 – 2010	323	99%	92% ²	60%
2010 – 2011	462	98%	91% ²	44%
2011 – 2012	423	98%	80% ³	39%
			Average gain	45%

¹District Administered Interim Tests

²Comprehensive Assessment of Reading Strategies (CARS)

³SAT-10, administered by District

TESTIMONIALS

Isaac and Ariel showed more interest and enthusiasm with learning and reading than I have previously witnessed. MaxScholar has given both of them an opportunity to refine their skills and have a great time simultaneously. The highlighting task was a joy to watch as they both worked hard with smiles on their faces.

Michael L., Educational Specialist, Broward County, Florida

My son went from the 1st grade 4th month reading level to the 4th grade 3rd month level in three month's time in working with MaxScholar phonics and MaxScholar Highlighting. The reading coach at his school who did the standardized test was amazed at the progress achieved by using the MaxScholar programs. The graphics, the multisensory, and the kinesthetic interaction holds anyone's attention and makes them want to keep trying. This is the best educational software I have ever encountered.

Mrs. O parent

Just want to give 2 thumbs up for the MaxScholar software. Parents have told me how pleased they have been with the improvement in the reading and grades of their children. They say their children can't wait to go home and work on the software programs.

Michael D. teacher

The Highlighting software and reading strategies on the MaxScholar highlighting led to an awesome success of our son. He is now passionately engaged and involved with reading. The MaxScholar software is innovative and remarkable. The passages are engaging and interesting. The graphics are something Steve Jobs would have liked. Most of all, my son, who had difficulty with school, and was diagnosed with ADHD, is now an outstanding student. Thanks to the MaxScholar reading comprehension Highlighting software! The highlighting strategy gave my son remarkable and amazing results. He, for the first time, enjoys reading, and is now an A student.

Linda F.

My child went from the 27th percentile in reading on the state assessment to the 89th percentile on the state assessment. Thank you MaxScholar

parent

PROFESIONAL DEVELOPMENT

We offer Professional Development workshops to teach the teachers and other staff who will be using the program with an individual student or a classroom. We have found that teachers do not truly understand the power of the programs until they have used the program themselves. We feel that training on the software is essential. This can be arranged in person or via a phone call.

We can be reached at (305) 406-7208 or by email at info@maxscholar.com.

FEATURES OF THE SOFTWARE

5 R's of Reading Instruction

	PreK Phonics	MaxPhonics	MaxReading	MaxMusic	MaxPlaces	MaxBios	MaxVocab
Phonemic Awareness	✓	✓					
Phonics	✓	✓					
Fluency	✓	✓	✓				
Vocabulary	✓	✓	✓	✓	✓	✓	✓
Comprehension			✓	✓	✓	✓	
Hold students' attention		✓	✓	✓	✓	✓	✓

Color Key: Program focus Additional support

Instructional Levels:

	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	
PreK Phonics	Grades PreK - 2														
MaxPhonics		Grades K - 2													
MaxReading					Grades 2 - 12										
MaxMusic					Grades 3 - 12										
MaxPlaces					Grades 3 - 12										
MaxBios					Grades 3 - 7										
MaxVocab					Grades 3 - 12										

SCHOOL PARTNERSHIPS

MaxScholar improves students' ability to read words and comprehend what they read. These programs will result in:

- Improved student achievement in reading comprehension which improves performance on state testing.
- Improved student achievement in reading which supports the Common Core State Standards.

MaxScholar can be used for all pre-K, VPK, & Head Start students resulting in:

- A strong foundation for children to learn their letters and sounds
- A way for these students to write the letters
- Strong preparation for Kindergarten

MaxScholar can be used for all K-3 students who are just beginning to read or who have not been taught to read (blend letter and sounds into words)

- A strong foundation for these students will make them stronger readers.
- Closing the gap for struggling 1st, 2nd, and 3rd grade students by teaching them to read using multi-sensory language instruction.

MaxScholar can be used for students who are or who have

- Learning Disabilities
- Dyslexia
- ADHD
- Auditory Processing Disorder
- Working Memory
- Processing Speed Disorder
- ELL
- Students on RTIs

MaxScholar is appropriate

- For schools for preK, VPK, Head Start, and K-3 students as part of a program to teach reading.
- For after-school tutoring at school sites
- For use in schools, as part of programs for at-risk students
- As part of an RTI program, Levels I, II, and III
- For supplementary programs for schools, parents, or grandparents to reinforce, drill, and practice

PRICING

Number of Licenses*	Price per License*
1	\$250.00
2 - 24	\$135.00
25 - 99	\$75.00
100 - 299	\$50.00
300 – 3,000	\$35.00
Over 3,000	\$25.00

*Each license allows one student to use all the programs for one year

Professional Development (teacher training) will be determined by the number of teaching staff to be trained.

ORGANIZATION CHART

Production:

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AT	Music Apps	Buenos Aires
HN	Django/Python	Bogota
GG	HR/Data Entry	Manilla, Phillipines
ED	Web Developer	Bogota
ER	Web Developer	Miami
ID	Django/Python	Lima
YS	Design	Bogota
MG	Design	Guatemala City
FM	Audio/Visual	Buenos Aires
JD	Marketing materials	Salem, OR

Education Content

Deborah Levy	Educational Adviser	Miami
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MaxScholar Specialists

LD	Product Specialist	Boston
SF	Product Specialist	New York, NY
ML	Product Specialist	Plantation, FL
SA	Product Specialist	Miami
DA	Product Specialist	Miami
VS	Product Specialist	Deerfield Beach, FL
GC	Product Specialist	Miami
DD	Product Specialist	Miami
MK	Product Specialist	Miami
JR	Product Specialist	Miami
JT	Product Specialist	Miami
MSH	Product Specialist	Miami
MSJ	Product Specialist	Miami
SP	IT Consultant	Hollywood, FL

Administrator

EL	Administrator/IT	Miami Beach
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