



2014-15 Study of Mississippi Teacher Preparation for Early Literacy Instruction

*A Project of The Barksdale Reading Institute (BRI) and
The Institutions of Higher Learning (IHL)*



STATEWIDE REPORT

December 2015

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“Evidence-based” refers to practices that have been shown to be successful in improving reading achievement. The success of these practices is demonstrated in two ways: by research-study data collected according to rigorous design, and by consensus among expert practitioners who monitor outcomes as part of their practice. These results—whether scientific data or expert consensus—must be valid and reliable and come from a variety of sources.

Reading Excellence Act, 1999

Research in reading should follow the norms of science. Each researcher must try to learn from the work of those who preceded him and to add to a unified body of knowledge—knowing that neither he nor anyone following him will ever have the final word.

Jeanne Chall, Learning to Read: The Great Debate, 1967

ACKNOWLEDGEMENTS

This document was made possible because of the vision and expertise of a dedicated team committed to improving literacy for all children in Mississippi. I wish to publicly thank them here. It must be acknowledged that this team included the deans and faculty of the 15 teacher preparation programs. Your willingness to participate and your spirit of transparency have enabled a thorough examination of how we are preparing teachers to teach reading in Mississippi. I owe you a hardy thanks and hope that the trust that has been forged through this process will support the collective efforts to come.

Thank you, Susan Lee, steadfast liaison to the Commissioner, you have been a patient and safe sounding board.

I have been encouraged by my new friend from the Coalition for Reading Excellence, Robert Sweet, Founder of the National Right to Read Foundation and author of several of the reports cited in this document. To you I am indebted for your thoughtful and important contributions to the timeline of reading research. You have survived all the reading skirmishes and been a persistent voice for getting reading instruction right.

The colleagues most responsible for this Statewide Report and the 15 individual institutional reports are a diligent and highly-skilled band. Each brought insight and remarkable fortitude to data collection and synthesis, textbook analysis, field observations, and report writing. For your respective contributions to each of these tasks, I say thank you to Michael Cormack, Linda Farrell, Adrienne Dowden, Michael Hunter, Greer Proctor-Dickson, Cindy Hale, and Theresa Schultz. I am especially grateful to Linda, you did the heavy lifting in synthesizing the science; and to Michael H for your meticulous wordsmanship.

Assisting with technical support and fiscal oversight are my friends and colleagues in BRI's Oxford office: Cindy Rials and Ricky Douglas. Nicole Lubar and loveable Otto get high-fives for being formatting gurus.

Of course I want to thank the magnanimous Barksdale brothers. I began my association with BRI with the 2003-04 study, shortly after Claiborne became CEO. You recognized, then, what you maintain today, that good reading instruction cannot happen without excellent teacher preparation. I am enormously grateful for your friendship and perspicacity in this and many other mutual endeavors.

Most of all, a deep genuflection to Jim Barksdale, who continues to believe in Mississippi's possibilities. You make good things happen here—especially for our youngest readers and the adults who are called to teach them.

kab
December 2015

STATEWIDE REPORT

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FOREWORD

Teaching a child how to read is difficult under any circumstance. The challenge is significantly greater, however, when the child enters the classroom lacking basic awareness of sound/symbol correspondence, has a poor vocabulary, or does not know that print conveys meaning. Unfortunately, this describes tens of thousands of children in Mississippi.

In 1999, when my late-wife, Sally, and I decided to create the Barksdale Reading Institute, we had these children in mind.

We were persuaded at the time by the strong results of the Mississippi Reading Reform Model (MRRM) pilot, which had been presented to us by then-State Superintendent, Richard Thompson. The model was based on the landmark National Reading Panel recommendations for sequential, systematic, scientifically-based reading instruction. It made sense to us.

Dr. Thompson asked us to partner with MDE to expand this model and to help accelerate change in Mississippi literacy. And so, we committed \$100 million to Mississippi's effort, the largest private literacy commitment in the nation's history.

In 2000, when the BRI master-level coaches began working in classrooms around the state, it quickly became apparent to them that many Mississippi teachers possessed very little knowledge and skill about how to teach reading, especially phonics. In addition, many did not subscribe to what the science was telling us about explicit instruction in early literacy skills, in spite of what the landmark studies had documented and the Mississippi Department of Education was advocating.

We found many teachers who thought that if they just asked children to look at the pictures and draw inferences, or asked the children to "sound it out," or used various other techniques that amounted, basically, to guessing, the child would over time figure it out for himself or herself. So in 2002, BRI commissioned a study of the pre-service programs at the eight public university schools of education. That study—which Kelly Butler also conducted—showed that typical pre-service literacy instruction was implemented in a scattershot way, including a smattering of phonics here and there.

Undergraduate education majors interviewed during the 2003 study said that they did not feel well prepared to teach reading. Based on that study and with support from the Higher Education Literacy Council, BRI petitioned the state board of education in 2003 to require two three-hour early literacy-based courses—Early Literacy 1 and 2—to cover the five elements of reading identified by the National Reading Panel: phonemic awareness, phonics, fluency, vocabulary and comprehension. The premise of that petition was to effect change in reading instruction by getting it right the first time.

Now, twelve years later, thanks to the cooperation of all 15 of the public and private universities and colleges and the support of the IHL, BRI has conducted another study to see how well the EL1 and EL2 courses are being implemented and, consequently, how well new teachers are being prepared to teach reading.

As you might expect, the results are mixed. BRI's team found definite improvement: greater focus on the five essential components of reading and a better understanding that science must inform how we teach, even if this is still not always being translated into practice.

There is still a great need for better course design, better course planning and coordination, more modeling and demonstration by pre-service faculty, and opportunities to practice instructional techniques by pre-service students.

It seems obvious to me that a teacher preparation program should, as a matter of course, require that all of its graduates demonstrate the ability to teach reading prior to graduation. It also appears from this review that better and more current materials are available for teacher preparation programs. I'm struck by how much of education is driven by the education publishing industry, which doesn't always advance the best science.

At the risk of sounding tautological, the key to teaching children how to read is the teacher. And the key to effective teachers is the professional training they receive. Just as children can't guess their way to reading well, teachers can't guess their way to teaching well.

We hope—I hope—that everyone will take this report, give it the attention that it deserves, and then work to implement the big ideas it lays out. It won't be easy and we understand that there will be some resistance, but BRI stands ready to work with all of the various institutions to do our part.

Jim Barksdale
December 2015

HIGHLIGHTS OF PERSPECTIVES AND RESEARCH INFLUENCING EARLY READING INSTRUCTION IN THE UNITED STATES

- 1798 The American Spelling Book – Noah Webster**
Promoted the synthetic phonics approach dominant in American classrooms at the turn of the century. Spelling was taught before reading, and the focus was on spelling rules.
- 1826 Primer of the English Language – Samuel Worcester**
Critical of alphabetics, represented first formulation of the word method. From Lesson 1: “Let the teacher remember, that a suitable portion for one lesson or exercise, is first to be read by the scholar, if the scholar can read it ; if the scholar cannot read it, the teacher must read it until the scholar can do it. The letters of each word are next to be learned, and the words to be carefully pronounced. The sense of the word is to be given, so far as it can be.” (Worcester, circa 1826)
- 1836 Eclectic Readers – William McGuffey**
A series of graded readers. Before McGuffey, reading was taught through spelling books (primarily Webster’s books) in early grades, and “readers” were used for older children. The innovation from McGuffey was to use short stories about children in familiar settings to teach beginning reading and to continue reading instruction in the same series with grade-level texts. With the McGuffey series, the speller was supplanted by a reading instruction text, and the spelling book assumed the role as the text for teaching spelling. (Smith, 2008)
- 1844 Report to the Massachusetts Board of Education – Horace Mann**
Mann depicted letters as “skeleton-shaped, bloodless, ghostly apparitions” and encouraged teaching children to read whole words. (Mann, 1844)
- 1896 The University School – John Dewey**
Dewey, the father of progressive education in the U.S., promoted learning to read through experience. He wrote, “It is one of the great mistakes of education to make reading and writing constitute the bulk of the school work the first two years. The true way is to teach them incidentally as the outgrowth of the social activities at the time....” (Dewey, 1896)
- 1925 Orton-Gillingham Approach to Teaching Reading – Samuel Orton & Anna Gillingham**
Orton, a clinician and prominent dyslexia researcher, hypothesized that normally developing readers suppress the visual images reported by the right hemisphere of the brain because these images could potentially interfere with input from the left. In the 1930s, Gillingham used Orton’s work to develop what became known as the Orton-Gillingham multisensory approach to teaching reading. Initially targeted for dyslexic students, the explicit, systematic approach used with Orton-Gillingham has proven to be successful not only with dyslexics but also with ELL and the general population. Contemporary and sophisticated brain research has confirmed the efficacy of explicit, systematic instruction through functional Magnetic Resonance Imaging (fMRI) technology. (Gillingham, 2014)
- 1929 “Dick and Jane” Reading Series – William Gray & Zerna Sharp**
Gray and Sharp created the “Dick and Jane” reading program first published by Scott Foresman. Gray remained involved with the program until 1956 when he became the first president of the International Reading Association (now International Literacy Association) founded that same year. “Dick and Jane” books, or subsequent editions that were renamed, were widely used to teach children to read from the 1930s until the 1970s. The books rely on the whole word and sight word method, with much repetition of words throughout the series. (Gray, 1956)
- 1938 Literature as Exploration – Louise Rosenblatt**
Influenced by Dewey, Rosenblatt makes the case that when constructing meaning the reader brings something unique to the text and creates a “transaction” between reader and the text, thus yielding something entirely new. Essentially, Rosenblatt promoted the right of readers to find their own meaning. Her views differ from the conclusion of the RAND Study (RAND, 2002) where (1) comprehension is dependent on the text, the reader’s background/existing knowledge, and the task of reading; and (2) meaning does not change based on the reader’s schema. Rosenblatt’s theory also differs from Common Core State Standard’s (CCSS) viewpoint of constructing meaning. The CCSS are based on finding evidence in the text to support findings from the reading. With both Rand and CCSS, the text influences the reader, but the text is static, although the reader’s response can be dynamic. (Rosenblatt, 1995)

- 1955 Why Johnny Can't Read and What You Can Do about It – Rudolph Flesch**
Flesch's popular book made the case that from the late 1920s until the early 1950s, the teaching of reading was dominated by the whole word method, which is why reading scores were falling across the country. He advocated a move back to phonics. (Flesch, 1993)
- 1966 Teaching to Read: Historically Considered – Mitford Mathews**
Mathews' writings reflect an early swing of the pendulum towards a code-emphasis approach. "The attitude of professionals and laymen alike appears now to be more favorable than it once was to the conclusion that no matter how a child is taught to read, he comes sooner or later to the strait gate and the narrow way: he has to learn letters and the sounds for which they stand. There is no evidence whatever that he will ultimately do this better from at first not doing it at all." (Mathews, 1966)
- 1967 The Cooperative Research Program in First Grade Reading Instruction – Guy Bond & Robert Dykstra**
A compilation of twenty-seven individual studies conducted during the 1964-67 school years to investigate different early reading issues, including instructional approaches. It was one of the first in a series of U.S. national reports to point to the advantage of using a code-emphasis in early reading instruction. (Bond & Dykstra, 1967)
- 1967 Reading: A Psycholinguistic Guessing Game – Kenneth Goodman**
Goodman is generally credited with developing and promulgating the whole-language approach to reading instruction in the U.S. In this article, he lays out the theoretical underpinnings of the whole language movement. He advocates "word centered" (as opposed to "phonics centered") approaches to early reading instruction in which the emphasis is on constructing meaning. He refutes that reading "is a precise process [that] involves exact, detailed, sequential perception and identification of letters, words, spelling patterns, and large language units." His use of the term "miscues" (as opposed to errors) when decoding, implies that the student was missing some component of knowledge that causes his guess about the word to be incorrect. According to Goodman, "Skill in reading involves not greater precision, but more accurate first guesses..." (Goodman, 1967)
- 1967 Learning to Read: The Great Debate – Jeanne Chall**
An inquiry into the science, art, and ideology of old and new methods of teaching children to read from 1910 – 1965. The book is an attempt to bring consensus from research about how and when to begin reading instruction and what to emphasize. Chall recommended a code-emphasis approach, but not exclusively. (Chall, 1967)
- 1980 Toward an Interactive-Compensatory Model of Individual Differences in the Development of Reading Fluency – Keith Stanovich**
A pivotal review of research examining three approaches to reading instruction: top-down, interactive, and bottom-up. One major implication of this review is that a combination of general comprehension strategies and rapid context-free word recognition are the most important differences between good and poor readers. This conclusion is contrary to the "psycho-linguistic guessing game" theory that differences between good and poor readers are based on individual differences in use of context to "guess" words with minimal attention to graphics (letters and phonics). (Stanovich, 1980)
- 1983 A Nation at Risk: The Imperative for Educational Reform, National Commission on Excellence in Education – David Pierpont Gardner, Chair**
A report by Ronald Reagan's National Commission on Excellence in Education to investigate the perceived national crisis from low levels of academic achievement among American students and the need for "world-class" standards of learning. The report contributed to the assertion that American schools were failing and was the impetus for efforts at local, state, and federal education reform. (National Commission on Excellence in Education, 1983)
- 1985 Becoming a Nation of Readers, National Commission on Reading – Richard Anderson, Chair**
Response to A Nation at Risk by the Center for the Study of Reading at University of Illinois. Four of the 17 recommendations in the report were:
- Teachers of beginning reading should present well-designed phonics instruction.
 - Reading primers should be interesting, comprehensible, and give children opportunities to apply phonics.
 - Teachers should devote more time to (direct) comprehension instruction.
 - Teacher education programs should be lengthened and improved in quality. (Anderson, 1985)

- 1986 Decoding, Reading, and Reading Disability – Philip Gough & William Tunmer**
Posits “The Simple View of Reading” (SVR) wherein reading comprehension can be predicted based on its constituent skills of decoding and language. The SVR was proposed to scientifically resolve the primary issue between reading ideologies which is whether accurate decoding skills are or are not necessary to achieve reading comprehension. The SRV formula was shown to have high correlations by Gough & Hoover’s work in 1990, thus providing evidence that accurate decoding is an essential component of reading comprehension. (Gough & Tunmer, 1986)
- 1990 Beginning to Read: Thinking and Learning about Print – Marilyn Adams**
This book originated from a Congressional mandate to appraise the place of phonics in teaching children to read. Adams critically evaluated an enormous range of research and information in this highly readable book. Adams’ conclusion is that early reading instructional approaches that include code-based instruction result in “word recognition and spelling skills that are significantly better than those that do not” and “comprehension skills that are at least comparable to programs without code instruction.” Adams notes that this is the same conclusion Chall drew 25 years earlier. She also concludes that evidence converges on the vital importance of instructing children to understand the alphabetic principle. (Adams, 1990)
- 1995 Meaningful Differences in the Everyday Experience of Young American Children – Betty Hart & Todd Risley**
This seminal study identified the substantial word gap across socioeconomic status (SES) in pre-school children. The study’s findings were astonishing. In the first four years of life, a child in a poverty-level family would have been exposed to about 13 million words, in a working class family the number would be 26 million words, and in a professional family the number would be almost 45 million words. By age 4, the average child in poverty might have been exposed to 30 million fewer words than a child in a professional family. This study pointed to the importance of a child’s pre-school experience and the urgent need for early intervention. (Hart & Risley, 1995)
- 1998 Preventing Reading Difficulties in Young Children – Committee on the Prevention of Reading Difficulties in Young Children, Catherine Snow, Chair**
Analysis and synthesis of partially convergent, and sometimes discrepant, research findings to provide an integrated picture of how reading develops and how reading instruction should proceed. Although the focus is on students with reading difficulties, recommendations offer insight into best ways to teach reading to all children in preschool through grade 3. All members agreed “that the early reading instruction should include direct teaching of information about sound-symbol relationships to children who do not know about them and that it must also maintain a focus on the communicative purposes and personal value of reading. (Snow, 1998)
- 1998 Reading Excellence Act (REA)**
A bipartisan coalition, including the U.S. Department of Education, the White House, and Congress agreed to support scientific research in reading instruction. The REA provided competitive grants to states to improve reading skills of students and the instructional practices of teachers of reading by using the findings from “scientifically-based reading research.”
- 2000 Report of the National Reading Panel: Teaching Children to Read**
A 14 member panel (including a Mississippian) commissioned by Congress conducted a rigorous assessment of evidence-based research studies concerning the effectiveness of various approaches to teaching reading in the areas of alphabetics (phonemic awareness instruction and phonics instruction), fluency, and comprehension (vocabulary instruction, text comprehension instruction, and teacher preparation and comprehension strategies instruction). The goal was to provide an authoritative synthesis and analysis that would summarize scientifically-based research findings to inform classroom instruction. The NRP findings included:
- *Teaching children to manipulate phonemes in words was highly effective and significantly improves their reading more than instruction that lacks attention to PA.*
 - *Systematic phonics instruction produces significant benefits for students in grades K-6 and for struggling readers. Systematic, synthetic phonics instruction specifically positively affects disabled readers and low-achieving students who are not disabled.*
 - *Guided oral repeated reading procedures that include guidance from teachers, peers, or parents had a significant and positive impact on word recognition, fluency, and comprehension across a range of grade levels.*
 - *Vocabulary should be taught both directly and indirectly. Repetition and multiple exposures to vocabulary items are important. Depending on a single vocabulary instruction method will not result in optimal learning.*

- Teaching a combination of reading comprehension techniques is most effective.” However, “questions remain as to which strategies are most effective for which age groups.
- In order for teachers to use strategies effectively, extensive formal instruction in reading comprehension is necessary, preferably beginning as early as pre-service. (National Reading Panel, 2000)

2001 No Child Left Behind (NCLB) Act of 2001

NCLB is a reauthorization of the Elementary and Secondary Education Act (ESEA) which supports standards-based education reform and requires any school that receives federal funding to give assessments to all students at certain grade levels. Reading First is the part of NCLB that provided aid to schools with disadvantaged students in grades K-3. Schools receiving Reading First funds were required to use a portion of their funds to provide professional development to teachers on the five essential components of reading instruction and to offer scientifically-based instruction and assessment in the following areas: phonemic awareness, phonics, fluency, vocabulary, and comprehension. These have become commonly known as the “five essential components of reading.” (No Child Left Behind Act, 2001)

2001 A Meta-Analysis of Studies Examining the Effect of Whole Language Instruction on the Literacy of Low-SES Students – William Jeynes & Stephen Littell

This meta-analysis of 14 studies examining whether whole language instruction increases the reading skills of low-SES students in grades K-3 concluded that they do not benefit from whole language instruction when it is compared to basal instruction. The report cited as problematic the difficulty in gaining consensus on the varying definitions of the whole language approach, even, among its advocates. (Jeynes & Littell, 2000)

2001 Connecting Early Language and Literacy to Later Reading (Dis)abilities: Evidence, Theory, and Practice – Hollis Scarborough

Conceptualizes the “Reading Rope” to illustrate the interactive strands of skilled reading:

- Word Recognition: phonological awareness, decoding, sight recognition
- Language Comprehension: background knowledge, vocabulary, language structures, verbal reasoning, literacy knowledge. (Scarborough, 2001)

2002 Reading for Understanding, RAND Reading Study Group – Catherine Snow, Chair

Funded by Office of Educational Research and Improvement (OERI), the RAND Study Group, constructed a national framework for research in reading comprehension to build on existing evidence. The 3-part heuristic for defining comprehension as: reader, text, and activity was conceptualized in this study. RAND proposed three key areas for additional research: instruction, teacher preparation, and assessment. (Snow, 2002)

2003 Overcoming Dyslexia – Sally Shaywitz, M.D.

Dr. Shaywitz draws on recent scientific breakthroughs to explain how children can become good readers and why children have reading difficulties. She addresses why everyone speaks, but not everyone reads and how it is that some smart people cannot read. Although the book’s title indicates a focus on dyslexia, Dr. Shaywitz includes important information about the best evidence-based instruction to teach all children to decode. (Shaywitz, 2003)

2008 Developing Early Literacy: Report of the National Early Literacy Panel (NELP) – Timothy Shanahan, Chair

Funded by the National Center for Literacy, the report was a synthesis of the scientific research on the development of early literacy skills in children ages zero to five. The primary goal of the report was to identify interventions, parenting activities, and instructional practices that promote language and literacy in young children. The report emphasized (a) the importance of early skills to later reading and spelling and (b) the statistically significant effect of code-emphasis on children’s literacy skills. (NICHD, 2008)

2009 Reading in the Brain: The New Science of How We Read – Stanislas Dehaene

Dr. Dehaene is a neuroscientist who explains how children learn to read, and why some children don’t, based on findings from neuroscience and the wealth of brain-imaging research that has explored what the brain does when it reads. He takes issue with whole language because it is counter to how the brain is wired to process written language. (Dehaene, 2009)

2013 The Science of Reading and Its Educational Implications – Mark Seidenberg

An attempt to answer the question: “If the science is so good, why do so many people read so poorly?” The author considers three possible factors and draws several important conclusions:

- 1) The fact that English has a deep alphabetic orthography is not a factor in why so many people read so poorly because other English speaking countries score much higher than the U.S. on international reading assessments.*
- 2) How reading is taught is a factor in which so many people read so poorly, and the reason is that many colleges of education train teachers based on theories that evidence-based research does not support.*
- 3) The impact of linguistic variability as manifested in the Black-White achievement gap needs to be examined further, but the evidence points toward this variability being a factor. (Seidenberg, 2013)*

#

LIST OF TERMS

ACEI – Association of Childhood Education International
BRI – The Barksdale Reading Institute
CAEP – Council for the Accreditation of Educator Professionals
DIBELS – Dynamic Indicators of Basic Early Literacy Skills
EL1 – Early Literacy 1
EL2 – Early Literacy 2
ELL – English Language Learners
ESEA – Elementary and Secondary Education Act
HELC – Higher Education Literacy Council
IDA – International Dyslexia Association
IES – Institute of Education Sciences
IHL – Institution of Higher Learning
ILA – International Literacy Association (formerly IRA)
INTASC – Interstate New Teacher and Support Consortium
IRA – International Reading Association (renamed ILA)
IRI – Informal Reading Inventory
ITSE – International Society for Technology in Education
LBPA – Literacy-Based Promotion Act
LETRS – Language Essentials for Teachers of Reading and Spelling
MCCRS – Mississippi College and Career-Ready Standards
MDE – Mississippi Department of Education
M-STAR - Mississippi Statewide Teacher Appraisal Rubric
NAEd – National Academy of Education
NAEP – National Assessment of Educational Progress
NCATE – National Council for Accreditation of Teacher Education
NCLB – No Child Left Behind
NICHD – National Institutes of Child Health and Human Development
NRP – National Reading Panel
NCTQ – National Center for Teacher Quality
OERI – Office of Educational Research
RAND – Research and Development (Corporation)
REA – Reading Excellence Act
RtI – Response to Intervention
SES – Socioeconomic Status
SPA – Specialized Professional Association
SVR – Simple View of Reading
TIAI – Teacher Intern Assessment Instrument
TPP – Teacher Preparation Programs

PREFACE

Greatness is not a function of circumstance. Greatness, it turns out, is largely a matter of conscious choice.

Good to Great
Jim Collins (2001)

Jim Barksdale once told me “If FedEx can get a package from the middle of Manhattan to the middle of Tokyo in forty-eight hours, track it along the way, and guarantee its timely delivery, then we ought to be able to teach every child in Mississippi to read.” I believe him.

I also believe that the Institutions of Higher Learning (IHLs) should be at the forefront of change that will teach every child in Mississippi to read. This report is meant to focus attention on the role that teacher preparation can and must play in lifting Mississippi off the bottom of reported reading scores and moving us upward as rapidly as possible.

I am privileged to have undertaken this review of teacher preparation for early literacy instruction in Mississippi on behalf of The Barksdale Reading Institute and in collaboration with the Commissioner for the IHL.

I want readers to know that I have approached this work with an appreciation for the history of reading education and the disparate views about reading research and pedagogy in the United States. I am aware these differing opinions persist.

However, best practices for early literacy instruction have been soundly established in the large body of scientific studies on reading over the past 30+ years. This is golden.

Given the low performance of Mississippi students and the difficulty in recruiting and retaining talented teachers, my desire is that the information from this study will prompt changes in pre-service and in-service programs to better meet the demands of teaching in our mostly rural and high-poverty state.

Mississippi is positioned to consciously choose a radically different course of action for teacher preparation. Our systems are not large. Our ranking is at the bottom. And evidence-based practice marks a clear path forward.

Therefore, I urge you to examine the body of scientific research about reading instruction and I bid everyone invested in Mississippi’s literacy to take bold and necessary actions. For, if our reading instruction is not grounded in the science, our children will continue to fail at alarming rates.

I fully honor the educators who have participated in this study. You have been generous with your time, shared perspectives candidly, and opened your classrooms for scrutiny. I invite you to consider the observations reported here for their accuracy and alignment to the science, the standards, and best practice.

Finally, I want you to know that though there is always margin for error in reviews such as these, our team has acted in good faith. We stand ready to support all efforts to accelerate the work to get reading instruction right for the children and future of Mississippi.

Kelly Butler
Jackson, Mississippi
December 2015



2014-15 Study of Mississippi Teacher Preparation for Early-Literacy Instruction

A Project of The Barksdale Reading Institute (BRI) and The Institutions of Higher Learning (IHL)

EXECUTIVE SUMMARY

A. Current Conditions

Mississippi continues to rank last or near bottom on national measures of reading achievement. The Mississippi Department of Education (MDE), the public schools, the State Legislature, and the Institutions of Higher Learning (IHLs) can change this unacceptable reality. Research marks an unambiguous path to effective reading instruction. We must choose this path.

The State Legislature has taken significant steps toward improving children's reading achievement. In 2012 they enacted programming to improve reading instruction for students with specific learning disabilities, including dyslexia. In 2013, they passed the Literacy-based Promotion Act (LBPA) to ensure students were reading on grade level by the end of third grade.

In the LBPA's first year, the MDE placed reading coaches in the lowest performing schools across the state to help schools improve the teaching of reading. An increasing number of coaches has extended support to more schools each year. The LBPA also instituted intensive research-based professional development for in-service teachers and made this available to university professors of literacy.

These measures have introduced scientifically-based structured literacy into our public schools. The IHLs are charged with bringing this science to the next generation of reading teachers.

B. Goal and Scope of the Study

This report by the Barksdale Reading Institute (BRI) focuses on the critical role Mississippi's teacher preparation programs must play to realize the goal of reading proficiency in the early grades. That critical role is to improve the initial preparation of new teachers. This study replicates one completed by BRI in 2003, which prompted licensure changes for elementary education majors.

The goal of this study was to determine whether Mississippi's IHLs are adequately preparing pre-service teacher candidates to effectively teach reading when they enter their elementary classrooms.

Since 2003, MDE licensure has required two early-literacy courses (Early Literacy 1/EL1 and Early Literacy 2/EL2) in undergraduate elementary education programs. The purpose of the mandated courses was to ensure that pre-service candidates learned evidence-based practices documented by the National Reading Panel (NRP, 2000) for literacy instruction in five essential areas of reading: phonological/phonemic awareness, phonics, fluency, vocabulary, and comprehension, plus writing.

Over the course of 18 months, the BRI study team reviewed the required reading course sequence at each of the 15 public and private colleges and universities in Mississippi during the 2014-15 academic year with a particular focus on EL1 and EL2. This table summarizes the scope of the study. It is noted that IHL participation in the study was voluntary.

Scope and Size of the BRI/IHL Study						
Deans and Faculty Interviewed from 23* IHL sites	Syllabi Reviewed	Textbooks Reviewed	Pre-service Candidates Surveyed in 20 Focus Groups	Pre-service Classes Observed	Recent Graduates and Student Interns Observed Teaching in K-5 Settings	Principals in Partner Schools in 15 Districts Interviewed
119	83	45	149	71	58	24

*There are fifteen public and private institutions of higher learning. Of these fifteen, six have one or more satellite campuses, totaling 23 individual sites within Mississippi. Our review included visits to all fifteen main campuses, plus visits to seven of the eight satellites. Discrete syllabi of early literacy courses were reviewed for eighteen sites.

C. Instructional Minutes Spent Teaching Components of Reading

Since the 2003 BRI pre-service study of early literacy in the eight public teacher preparation programs, the five essential components of reading instruction have become an integral part of elementary education preparation throughout the state. This trend is significant and positive.

The table below highlights the statewide averages for the number of minutes devoted specifically to learning how to teach and assess these essential components. To put this in context, a typical semester course has approximately 2,450 minutes for EL1 and 2,750 minutes for EL2. Each of the averages in the table below shows the number of instructional minutes within a typical semester course that are focused on learning how to teach a particular component. These minutes only tell part of the story, obviously, but they serve as a solid baseline upon which to build a better pre-service program.

Note: The review found that, on average, EL2 courses had more instructional time allocated than for EL1. This did not appear to be intentional, nor was any rationale provided. It may have been a function of variable length in fall and spring semesters and number of holidays.

Average Number of Minutes within Semester Courses of EL1 and EL2 Spent Learning to Teach These Components of Reading					
EL 1 MINUTES			EL2 MINUTES		
Alphabetic Knowledge	Phonological and Phonemic Awareness	Explicit Phonics	Fluency	Vocabulary	Comprehension
54 mins.	150 mins.	282 mins.	114 mins.	154 mins.	329 mins.
Out of approximately 2,450 total instructional minutes in a semester of EL1 20% of course time			Out of approximately 2,750 total instructional minutes in a semester of EL2 22% of course time		

D. Nine Key Findings

The nine key findings from the study are:

- Finding 1.** The five essential components of reading instruction are the primary focus of all teacher preparation literacy programs through the state-mandated courses.
- Finding 2.** The structure and content of early-literacy courses are inconsistent across the state.
- Finding 3.** Established research-based principles of early-literacy instruction remain largely unapplied in preparation and practice.
- Finding 4.** “Balanced Literacy”—as interpreted by Mississippi teacher preparation programs and in many K-3 classrooms—has resulted in widespread use of practices that are not supported by research.
- Finding 5.** High standards for learning have become the norm in early literacy and in teacher preparation.
- Finding 6.** Opportunities to observe instruction being modeled, followed by opportunities to practice, are insufficient for developing entry-level skills for teaching.
- Finding 7.** Time in the field associated with early-literacy instruction has increased significantly.
- Finding 8.** Most programs now offer a distinct assessment course, usually specific to assessing reading difficulties.
- Finding 9.** Writing as a component of literacy is inadequately addressed.

E. Three Big Ideas

Mississippi is a small state with only 15 traditional-route teacher preparation programs. MDE is fully engaged in K-3 literacy efforts and the Legislature appears keen to ensure that the literacy challenges that keep us at the bottom of all reading measures are conquered. The interrelated tasks among the various players are complex, but the road map for IHLs is clearly marked. All of us entrusted with preparing Mississippi’s teachers of literacy are urged to consider Three Big Ideas.

Big Idea #1 ADOPT RESEARCH-BASED PRACTICES AT EVERY LEVEL OF READING EDUCATION

- a) Establish research-based principles and practices in core reading courses at all 15 IHLs.
- b) Focus pre-service course core content on explicit, systematic instruction for all five essential components, plus writing, rather than on the balanced literacy approach which is more implicit and less systematic.
- c) Expand and apply knowledge of research-based practices so that teacher preparation instructors, literacy coaches, and K-3 classroom teachers all incorporate research-based approaches to instruction.
- d) Develop and apply stringent standards for state accreditation of teacher preparation programs to require application of research-based methods in the 15-hour reading sequence.

Big Idea #2 BRING CONSISTENCY TO EARLY-LITERACY COURSE CONTENT AND DELIVERY IN ALL TEACHER PREPARATION PROGRAMS

- a) At the pre-service level use established research-based methods to teach all essential components of literacy including writing, and teach skills in assessment and intervention.
- b) Develop pre-service core content for EL1 and EL2 course schedules, including a common set of required readings.

- c) Develop pre-service textbook guidelines and adoption policies that insure research-based content.
- d) Incorporate regular and frequent modeling of effective practices in undergraduate courses, including using a core of approved video demonstrations of research-based instruction.
- e) Develop a statewide network of “laboratory classrooms” in the K-3 system with skilled, paid mentor teachers for fieldwork and practice teaching.
- f) Ensure impact of pre-service candidates’ practice of teaching and assessing all early-literacy skills by developing a core set of assignments for fieldwork.
- g) Require demonstration of proficiencies in literacy instruction as a requirement for graduation from an elementary education program.

Big Idea #3 DIRECTLY INVOLVE EDUCATORS IN SHAPING POLICY AND PRACTICE

- a) Amend LBPA to increase intentional planning and collaboration among literacy education policymakers and practitioners by expanding the State Reading Panel to include representation from IHL Deans, early-literacy instructors, literacy coaches, mentor teachers, partner district principals, and other literacy experts. Expanded functions to include:
 - Designing a credentialing process for instructors of EL1 and EL2, with all instructors required to obtain early literacy credential by 2020.
 - Developing a set of Evidenced-based Literacy Instruction Principles to guide all pre-service teacher training, in-service professional development (including external providers), K-3 coaching, and literacy instruction in Mississippi.
 - Organizing and monitoring the execution of Big Idea #2.
 - Proactively advising the legislature and the MDE on all policy and other issues related to early literacy.
- b) Revise the State’s program accreditation process to ensure consistent application of high standards in elementary education programs that will support full implementation of evidence-based practices in early literacy instruction.

For more information about the Study or to download a copy of the Statewide Report, visit our website at www.msreads.org.

I. INTRODUCTION

A. Background

The Barksdale Reading Institute (BRI), in collaboration with the Institutions of Higher Learning (IHLs), conducted this study from mid 2014 through mid 2015. This 2014-2015 Study is a review of the traditional route teacher preparation programs for early literacy instruction (defined as reading and writing). All 15 of Mississippi's colleges, listed in Table 1, voluntarily participated in the study, and there was a spirit of cooperation and transparency across the board.

TABLE 1
Participating Institutions in the 2014-15 Study

8 Public Institutions	7 Private Institutions
Alcorn State University	Belhaven University
Delta State University	Blue Mountain College
Jackson State University	Millsaps College
Mississippi State University	Mississippi College
Mississippi University for Women	Rust College
Mississippi Valley State University	Tougaloo College
University of Mississippi	William Carey University
University of Southern Mississippi	

This 2014-2015 Study is an update of a similar study conducted by BRI in 2002-2003 in which the early literacy courses at the eight public universities were reviewed. The 2002-2003 Study found that pre-literacy courses, on average, included about twenty minutes of instruction on how to teach phonics. This finding was of concern because the National Reading Panel in 2000 published a meta-analysis of research showing that phonics is one of the five essential components of effective reading instruction.

The most important impact of the 2002-2003 Study was that the State Board of Education mandated six hours of instruction in the essential components of early literacy as a requirement for certification in elementary education.

All 15 pre-service programs in Mississippi have offered the mandated six hours since 2003 in courses called Early Literacy 1 (EL1) and Early Literacy 2 (EL2). These courses are part of the 15-hour reading requirement and are based on a prototype for the course descriptions and objectives prepared by the Higher Education Literacy Council (HELC). The purpose of EL1 is to prepare pre-service candidates to teach and assess Oral Language (as it pertains to phonology), Concepts of Print, Phonological Awareness, and Phonics. The purpose of EL2 is preparation for teaching and assessing Oral Language (as it pertains to meaning), Fluency, Vocabulary, and Comprehension, plus Writing.

B. Impetus

Mississippi students consistently rank among the lowest five states on the 4th grade National Assessment of Educational Progress (NAEP) reading scores. This trend in low performance prompted the passing of the Literacy-based Promotion Act (LBPA). (The LBPA legislation is informally called "3rd Grade Gate") in 2013. This legislation created a laser focus on how to improve early reading instruction in Mississippi's public elementary schools.

Improving pre-service teacher preparation for early literacy instruction is one of the most expedient ways to effect improvement in reading instruction in our elementary schools. Thus, it seemed an appropriate time to revisit the quality and efficacy of teacher preparation for early literacy instruction to determine (a) specifically if EL1 and EL2 courses are being taught as intended and (b) generally whether teacher preparation programs are preparing graduates to teach reading by the time they enter a K-3 classroom as certified teachers.

C. Organization of the Study Reports

The study is presented in two types of reports: this Statewide Report and 15 confidential reports, one for each of the 15 institutions that participated in the study.

This Statewide Report is a public document available for review by all interested parties. No specific information about any individual institution is included in the Statewide Report. The individual report for each IHL is confidential and will be given only to the education Dean at each IHL and to the Commissioner of Higher Education.

D. Comparison to Previous Teacher Prep Studies

Placing serious and sustained teacher learning at the center of school reform is a radical idea. It challenges dominant views of teaching and learning to teach. It calls for a major overhaul in provisions for teacher preparation, induction, and continuing development. It requires capacity building at all levels of the system. No one should underestimate the depth or scope of the agenda.

Preparation to Practice: Designing a Continuum to Strengthen and Sustain Teaching
Feiman-Nemser, 2001

A number of studies evaluating teacher preparation programs have been conducted previously in order to examine and improve teacher preparation. These include self-evaluations such as the report of the *Holmes Group Trilogy* (Holmes, 1986), *Preparing Teachers for a Changing World* (Snow, 2005), Arthur Levine's *The Education Schools Project* four-part study (Levine, 2006), and the International Literacy Association's current *Task Force on Teacher Preparation for Early Literacy Instruction* (ILA, 2015).

Others studies have contributed to the higher education system critique as well. A Nation at Risk (National Commission on Excellence in Education, 1983) urged recruitment of academically stronger candidates. The National Academy of Education (NAEd) undertook a review of program accreditation and teacher evaluation systems (2013). And most recently, the National Center on Teacher Quality lobbed a strong attack on "this lack of basic professional consensus and disregard for research (NCTQ revised, 2015)."

When preparing to conduct this study, we were mindful of these efforts and sought to contribute something different and deeper. Our intent was to focus only on early literacy courses. We looked closely at how well research-based approaches are taught and how field experiences reflect research-based approaches.

Therefore, the BRI study included a wide swath of course observations at all 15 IHLs and detailed interviews with students in the teacher prep programs and with recent graduates. We also interviewed all professors of courses observed, and mentor teachers and principals in partner schools across the state.

To be clear, this review of Mississippi's teacher preparation for early literacy instruction is not intended to be a public evaluation or ranking of programs. Rather, the study team sought to offer IHLs in Mississippi an objective examination of teacher preparation for early reading in order to make recommendations for improvement. Importantly, the review of all courses and the basis of all

recommendations are to be based on what is irrefutable and or/convergent in best practices of reading instruction based on scientific research.

It is also important to state that this study was not intended to assess accreditation compliance nor are those who conducted the study qualified to assess accreditation compliance. Rather, the study team sought to gauge effectiveness of early literacy preparation content and delivery based on (a) subsets of standards of recognized accrediting bodies and specialized professional associations (SPAs) and (b) research on the science of reading.

BRI regards this study as a reflection by critical friends who want to address the urgent need to improve the reading skills of our children in Mississippi. Indeed, we count ourselves within the collective needed to address the state's literacy challenges, and we offer our assistance with any and all recommendations in this report.

II. PURPOSE AND STRUCTURE OF THE STUDY

This study had two primary purposes. First was to examine the degree to which the EL1 and EL2 courses are meeting the intent of the 2003 mandate. EL1 is intended to teach best practices for oral language (as it relates to phonology), concepts of print, phonemic awareness, and phonics. EL 2 is intended to teach best practices for oral language (as it relates to meaning), fluency, vocabulary, and comprehension, plus writing.

The second purpose was to determine whether the core early literacy courses (within and beyond the 15-hour reading requirement) are sufficiently preparing teachers to deliver effective, research-based instruction in the five essential components of reading plus writing by the time they enter their own K-3 classroom. The five essential components of reading, based on evidence from scientific studies, as described in the Report of the National Reading Panel (2000) are: phonemic awareness, phonics, fluency, vocabulary, and comprehension.

A. Four Key Questions Addressed by the Study

The study addresses four key questions, each about a different area related to early literacy instruction.

Literacy Content as Intended by Licensure

- 1 Do the EL1 and EL2 courses meet the intent of the licensure requirement to strengthen early literacy instruction?**

Knowledge and Skill to Deliver Effective Instruction

- 2 Do the early literacy courses sufficiently equip pre-service candidates with the foundational knowledge and practical skills required to deliver effective reading instruction in K-3 on “day one”?**

Adequate Course and Program Scope and Sequence

- 3 Are there gaps or duplications in the scope, sequence, and content of early literacy courses that might prevent efficient and sufficient preparation for early literacy instruction?**

Exposure to Evidence-Based Practice

- 4 Are pre-service candidates exposed to pedagogy (in class and in the field) that reflects best practices supported by current and evidenced-based literacy-related research?**

B. Study Team

The qualitative study was completed by an eight-member team led by Kelly Butler, BRI’s Director of Program Strategy. Dr. Susan Lee, Associate Commissioner for Academic and Student Affairs, served as a liaison to the IHL Commissioner.

C. Scope of Study

The broad scope of the review included analyzing syllabi, observing pre-service courses, and conducting interviews. This scope is shown in Table 2 on the next page.

TABLE 2
Scope and Size of the BRI/IHL Study

Deans and Faculty Interviewed from 23* IHL sites	Syllabi Reviewed	Textbooks Reviewed	Pre-service Candidates Surveyed in 20 Focus Groups	Pre-service Classes Observed	Recent Graduates and Student Interns Observed Teaching in the K-3 Setting	Principals in Partner Schools in 15 Districts Interviewed
119	83	45	149	71	58	24

*There are fifteen public and private institutions of higher learning. Of these fifteen, six have one or more satellite campuses, totaling 23 individual sites within Mississippi. Our review included visits to all fifteen main campuses, plus visits to seven of the eight satellites. Discrete syllabi of early literacy courses were reviewed for eighteen sites.

D. Courses Examined

The study included an extensive examination of EL1 and EL2 courses at each of the fifteen institutions across twenty-one campuses. Other core literacy courses were reviewed at all institutions, with two purposes in mind. First, to determine if content from other courses overlapped with content taught in EL1 and EL2. Second, to identify if there were gaps in the overall content taught for early reading instruction. For all literacy courses outside EL1 and EL2, syllabi were reviewed when provided, and, in some cases, courses were observed and professors interviewed.

E. Review Methods

Steps Taken to Conduct the Study

1. Confidential Interviews with Deans – Before reviewing any of the materials or observing any courses, Kelly Butler conducted a confidential interview with the dean of education and the department chair for overseeing the early literacy courses. The purpose of the interviews was to explain and discuss the study, to glean their perspectives about early literacy, and to listen to any concerns prior to moving forward.
2. Review of Materials – Every school provided materials to be reviewed for the study. Most or all of the following materials for the EL1 and EL2 courses were provided and reviewed.
 - Syllabus
 - Course outline
 - Textbooks and other assigned readings
 - Student assignments
 - Exams

Some or all of the above materials were reviewed in other early literacy courses at all 15 IHLs.

3. Class Observations – One or more EL1 and EL2 classes were observed at each institution, with two exceptions due to scheduling. At 12 institutions, classes for some other early literacy courses were observed. Typically, these additional classes observed included an assessment course and a language arts methods course. Guidelines for pre-service and K-3 class observations were based on research on adult learning theory, organizing for instruction, principles of undergraduate teaching, and on standards from Interstate New Teacher And Support Consortium (INTASC) and Mississippi Statewide Teacher Appraisal Rubric (M-STAR).

4. Student Intern Observations and Interviews – Whenever possible, student interns in K-3 were observed in their practicum classrooms and interviewed after the observations. Mentor teachers and principals were also interviewed.
5. Faculty Interviews – Confidential interviews were held with all professors who taught the classes that were observed. Field placement coordinators were interviewed wherever possible.
6. Group Interviews with Pre-Service Candidates – Confidential group interviews with pre-service candidates who were juniors or seniors were held at all institutions, with one exception due to scheduling. In all cases, focus group participants were selected by the dean or department chair.
7. Recent Graduates – Teachers who had graduated within the last five years were observed teaching in the K-3 setting and interviewed after the observations. Principals at these schools were also interviewed. In most cases, names of recent graduates were provided by the dean or department chair. In some cases the study team was not able to schedule observations with some individuals on the lists provided by the IHLs. In several cases, other graduates (whose names had not been provided by the IHL) were identified during the course of our visits across the state. These graduates participated voluntarily and with permission by their principals.

Guidelines Based on Recognized Standards

The study team developed a set of guidelines they followed to conduct the course reviews. The guidelines are based on an internally developed set of standards related to reading that are taken from the Council for the Accreditation of Educator Preparation (CAEP), International Reading Association (IRA), the Association of Early Childhood Instruction (AECI), the Interstate New Teacher and Support Consortium (INTASC), the International Dyslexia Association (IDA), and the International Society for Technology in Education (ITSE).

A summary of the guidelines used by the study team can be found in Table 3 on the next page. The complete set of standards from these multiple sources appears in Appendix E.

TABLE 3
Summary of Internal Guidelines Used by Study Team
Based on CAEP, IRA, ACEI, INTASC, IDA and ITSE Standards

Both EL1 and EL2	Specific to EL1	Specific to EL2
General knowledge and research about reading, writing, and oral language	General knowledge and research about EL1 content	General knowledge and research about EL2 content
Dyslexia and other reading disorders	Instructional strategies for teaching and assessing: <ul style="list-style-type: none"> • Oral Language (as it relates to phonology) • Concepts of Print and Book Awareness • Letter Names and Letter Sounds • Phonological and Phonemic Awareness • High Frequency Words with Non-phonetic Spellings. • Explicit Phonics: decoding, spelling • Embedded Phonics 	Instructional strategies for teaching and assessing: <ul style="list-style-type: none"> • Oral Language (as it relates to meaning) • Fluency • Vocabulary • Comprehension • Writing
English Language Learners		
Learning environments that support literacy instruction		
Curriculum materials and instruction specific to early literacy content		
Opportunities for practice specific to early literacy instruction		
General assessments that inform literacy instruction	Specific assessments that inform instruction in concepts of print, phonological and phonemic awareness, and phonics.	Specific assessments that inform instruction in fluency, vocabulary, comprehension, and writing.
Appropriate use of technology/media to support instruction	Specific technologies to support instruction in concepts of print, letter names and sounds, phonological and phonemic awareness, phonics, and high frequency words.	Specific technologies for supporting instruction in fluency, vocabulary, comprehension, and writing.

F. Criteria for Course Reviews

General Criteria

Generally, the criteria used for course reviews included:

- Alignment with professional standards
- Alignment with HELC recommended EL1 and EL2 course descriptions and goals
- Alignment with the research base for the intended course content
- Modeling of effective early literacy instruction in the course
- Quality of fieldwork
- Quality of texts and other readings
- Quality of assignments and exams

Learner Snapshots

Learner Snapshots were used as a guide for observing classes. Individual Learner Snapshots were completed for each course based on observation notes and are included in the confidential, individual institutional reports. An aggregate of Learner Snapshots is included in Section IV of this Statewide Report.

The items included in the Learner Snapshot were based on the principles of good practice for undergraduate education (Chickering & Gamson, 1987); research-based principles for how learning works (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010); and practical guides for organizing instruction (IES, 2007). These principles and practices include: emphasizing time on task, goal-directed practice, giving prompt feedback, encouraging active learning, combining graphics with verbal descriptions, developing mastery by integrating and applying component skills, quizzing to promote learning.

Stringent Criteria for Reviewing EL1 and EL2 Content

EL1 and EL2 are well defined with the purpose of adequately preparing teachers with knowledge and instructional strategies for assessing and teaching the five essential components of reading, plus writing. Therefore, during this review, only materials or portions of classes observed that were related to the specific purpose of EL1 or EL2 were considered as appropriate content. Anything else was flagged as “outside the scope and sequence of the course”, even though the information may be relevant to elementary education majors in general.

The review was also stringent in its approach to assessing whether or not sufficient time is devoted to research, methodology, assessment, and practice in essential components of reading defined for EL1 and EL2 courses. If the skills required for EL1 or EL2 were included in any other courses at an institution, they were not considered to be a substitute for teaching the appropriate skills in EL1 and EL2. Where EL1 and EL2 are separate courses, content relevant to EL2 that is taught in EL1 was flagged as “outside the scope and sequence of the course”, and vice versa. For blocked versions of EL1 and EL2, content was evaluated based on equity and alignment within the schedule.

G. Background and Limitations of Study Design

Review of Syllabi and Textbooks

Within the context of teacher preparation program evaluations, we were aware of the limitations of drawing conclusions based solely on review of syllabi and textbooks. These limitations are explained well by Feuer, Floden, Chudowsky, & Ahn:

...syllabi alone provide limited estimates of program quality given that some materials in the formal written syllabus may not get taught and material not included in the syllabus may actually be taught. Textbook content is also examined, but again, just because certain material appears in a textbook does not mean it will be covered or emphasized by the instructor. The intended curriculum is what students are supposed to learn as laid out in syllabi and textbooks, whereas the enacted curriculum refers to the content actually delivered during instruction and how it is taught (McKnight et al, 1987; Schmidt, McKnight, Cogan, Jakwerth, and Houang, 1999). This distinction is germane to discussions about the validity and reliability of using evidence from syllabi and other course materials in TPP evaluations.

Feuer, et al, National Academy of Education, 2013

A course syllabus should reflect relevant and intended content. Course observations, along with interviews of student, faculty, pre-service candidates, and recent graduates should provide insight into the enacted curriculum.

We designed this study to include a combination of: (a) reviews of syllabi, texts, and other course materials; (b) first-hand course observations; and (c) personal interviews. Quotes from pre-service students, faculty, and K-3 professionals are used to illustrate key findings and corroborate key findings from multiple sources. The quotes are rendered anonymously.

We are confident that this combination of study and reporting methods has provided a reasonably reliable set of data for identifying possible gaps in Mississippi's 15 IHL traditional route programs with regard to preparing pre-service candidates to teach and assess the five essential components of reading, plus writing.

A Focus on Traditional Route Programs

It is important to note that, due to time and resources, the study included only traditional route programs for elementary education majors obtaining K-3 or K-6 licenses. It is recognized that professionals enter our K-3 classrooms through a variety of preparation programs (e.g. Teach for America) and certification routes (e.g., special education, early childhood education).

The quality and capacity of these other programs preparing teachers of reading should also be reviewed for their scientific basis of instruction.

As of this writing both traditional and alternate route elementary education majors must pass the state-mandated Foundations of Literacy test to be certified. It has not been determined if those who follow alternative route preparation are required by their institutions to take EL1 and EL2, but this should be considered.

What Constitutes Ideal?

Based on the consensus of scientific research about effective early literacy instruction, it is reasonable to make recommendations about types and concentrations of content for EL1 and EL2 courses. It is also reasonable to evaluate whether the content and presentation within the context of a semester course are supported by research.

The study team acknowledges that educational research has not been conducted to define what constitutes the ideal number of minutes of direct preparation for early literacy. Therefore, there are study limitations that prevent us from recommending, for example, a specific number of minutes for teaching undergraduates about how to teach vocabulary or how to teach phonics.

III. RESULTS OF THE STUDY : NINE KEY FINDINGS

The Nine Key Findings

There are nine key findings from the study. The Findings are numbered and appear in **boldface** type. Commentary about each Finding appears in paragraphs within that section. Bullets (•) in this section provide concrete examples and supporting evidence of each Finding. Recommendations related to these Findings are reported in Section V of this document under The Four Study Questions Answered.

Note: Quotes from pre-service candidates, recent graduates, and faculty are included in this report as a way to illustrate that key findings are supported by multiple perspectives and sources. These quotes are reported anonymously, as interviews were confidential.

Finding #1. The five essential components of reading instruction are the primary focus of all fifteen traditional route teacher preparation programs in early literacy through the State-mandated literacy courses (EL1 and EL2).

This finding is supported by course descriptions, course objectives, and SPA standards.

- The EL1 course descriptions at 13 of the 15 IHLs describe the correct content as intended by licensure to include learning how to teach and assess the essential components of concepts of print, oral language, phonological/phonemic awareness, and phonics. In one instance the course description does not mention concepts of print, phonological/phonemic awareness, and phonics at all. Instead, the course focuses on the “four cueing-system,” which does not address the five essential components.
- The EL2 course descriptions at 13 of 15 institutions describe the correct content as intended by licensure to focus on learning how to teach and assess the essential components of fluency, vocabulary, comprehension, plus writing. Two institutions do not list these essential components as the focus.
- The EL1 course descriptions for all but one institution include language specific to teaching explicitly and systematically and/or using research-based practices. This language is also included in EL2 course descriptions at 11 of the 15 programs. This finding reflects that research-based instruction is mentioned in the course description language, but should not be interpreted as reflecting research in actual course content. The application of research is addressed in Finding #3.

Prior to EL1 and EL2, there was a course on philosophy and a course on reading. They were separated from practice. Now it is much more practical. Students see it, and live, and reflect on it.

Mississippi IHL Pre-service Faculty

I look for teacher candidates who know phonics and are strong at teaching vocabulary. I want teachers using strategies to help students figure out words, not provide the word for them. I expect modeling in the teaching of reading.

Principal in a Partner School

Finding #2. The structure and content of EL1 and EL2 are inconsistent across the state.

As described in Finding #1, good progress has been made in incorporating the five essential components of reading as central to effective practice in early literacy. Nonetheless, there are still serious gaps in Mississippi's teacher preparation programs with regard to producing effective practitioners of scientifically-based reading instruction.

This finding is supported by information that shows a wide variety in course structures and course content in EL1 and EL2 from IHL to IHL. The number of instructional hours and the duration and quality of fieldwork associated with these two courses also vary widely.

The discussion related to Finding #2 is organized as follows: Structure and Sequence, Instructional Hours in Class, Fieldwork Hours, Course Content and Emphasis, Time Spent Learning to Teach, Textbooks, General Assignments, Lesson Plan Assignments, and Exams.

Structure and Sequence

The structure for EL1 and EL2 occurs in many formats. The structure influences how much time can be devoted to each of the essential components.

I'm not sure we have the right scope and sequence. We may not be systematic.
Mississippi IHL Pre-service Faculty Member

- The 15 IHLs are offering EL1 and EL2 in five different ways:
 - 1 Two 3-hour courses that are taken in sequence over the course of two semesters, with EL1 serving as a pre-requisite to EL2. Sometimes the sequence occurs between the fall and spring of the junior year. Sometimes the sequence occurs between the spring of the junior year and fall of the senior year.
 - 2 Two 3-hour courses taken in no particular sequence over the course of two semesters
 - 3 Two 3-hour courses taken during the same semester on different days of the week
 - 4 Two 3-hour courses taken during the same semester on the same day, back to back.
 - 5 One 6-hour block taken during the same semester with an intended sequence for presenting each of the essential components in a distinct timeframe. This does not necessarily yield a 50/50 split between EL1 and EL2 content.

EL1 is overwhelming. It needs to be taught early, but they forget it by the time they are seniors. There's no time to reteach it.
Mississippi IHL Pre-service Faculty

Instructional Hours In Class

In-class instructional hours were calculated based on semester starting and ending dates, course meeting times, and course schedules provided. For example, a typical 3-hour course might meet twice a week for 75 minutes each for a series of fifteen weeks, exclusive of holidays. This was calculated as follows: 2 x 75 minutes = 150 minutes a week x 15 weeks = 2,250 minutes or 37.5 hours of instructional time.

- Instructional hours in class for the three-hour EL1 course ranged from as few as fourteen hours (when conducted partially on-line as a hybrid course) to as many as 40 hours.
- Instructional hours in-class for the three-hour EL2 course was more consistent, averaging about 45 hours across the state.

Fieldwork Hours

Compared to the 2003 study, fieldwork has significantly increased as part of early literacy preparation. This is explained further in Finding #6. The section below addresses the inconsistent structure and expectations related to fieldwork across institutions.

Fieldwork hours were sometimes precisely stated in the syllabus, particularly if fieldwork was part of the total course grade. Very often it was unclear in course materials provided if fieldwork was within the scheduled class meeting time, in addition to it, or in lieu of it. Best assumptions were made in these cases.

- Fieldwork hours for both EL1 and EL2 ranged from zero to twenty. Most institutions require fieldwork for both courses.
- Two programs extend EL1 and EL2 into 4-hour credits through designated practicum hours, either through a separate lab course or extending the base course.
- One program requires no field experience in EL1; another requires no field experience in EL2.

Course Content and Emphasis

The intent of the licensure requirement is to make sure the five essential components are addressed thoroughly and directly so that pre-service candidates are able to teach early literacy effectively. Prior to the licensure requirement not all components were being taught. Therefore, the six-hour block was mandated to ensure that the five essential components are mastered as discrete functions first, and before learning how a skilled reader integrates the components in the reading process. One pre-service candidate sized it up this way...

We learn certain things in EL1 & EL2, then it all comes together in the diagnostics course.

--Pre-service Candidate in IHL Focus Group

- Across programs, the median percentage for course content falling outside the scope and sequence of EL1 is 20% (see Table 6); and for EL2 is 14% (see Table 10).
- Some professors continue to teach several components simultaneously, which was the traditional way of teaching prior to EL1 and EL2 being required, and not the intent of the EL1 and EL2 courses.
- At many IHLs, a large percentage of the content in both EL1 and EL2 is outside the intended scope. This occurs because either (a) material is not aligned to licensure intent for the specific course and/or, (b) because principles and practices are not supported by the research. (The content taught in EL1 sometimes includes content appropriate for EL2 and vice versa.) In addition, the time spent on each of the components is widely disparate. Occasionally material presented is not reflected in the syllabus at all.

Some content in EL1 & EL2 is redundant.

Pre-service Candidate in IHL Focus Group

Tell me the five elements. I'm sure I know them, but I can't remember.

Mississippi IHL 2013 graduate now teaching Kindergarten

- Phonics, in particular, is receiving considerably more attention, from approximately 20 minutes per semester before the licensure requirement compared to 282 minutes after.

We've gone back to phonics. Students need to know the difference between letters and sounds.

Mississippi IHL Pre-service Faculty

- Only a few IHLs emphasize a synthetic approach to teaching phonics over other approaches. Generally, multiple approaches to phonics are being taught and include non-evidence based practices. This is reflected in comments from recent graduates from the same program:

When I teach spelling, I have them say it, slide it, hear it, write.

Mississippi IHL 2012 graduate now teaching 1st grade

versus

I teach phonics in short mini-lessons during guided reading using leveled readers.

Mississippi IHL 2012 graduate now teaching 2nd grade

- Pre-service candidates in focus groups expressed very limited and conflicting knowledge about a scope and sequence for early literacy skills or the importance of this sequence to teaching early literacy skills. Materials from one program relied on a precise and comprehensive scope and sequence for teaching phonics concepts recommended by their LETRS textbook (Glaser & Moats, 2008). Most programs used the sequence listed in whatever was the required textbook. Many textbooks did not emphasize or provide a complete and systematic scope and sequence, resulting in inconsistent or random approaches to this important issue.

I guess you start with the long vowels, because they say their names.

Pre-service Candidate in IHL Focus Group

Teach the short vowels first; they are more consistent.

Pre-service Candidate in IHL Focus Group

I teach phonics during guided reading. We've taught short and long vowels. Next week we're doing the silent-e.

2014 IHL Graduate now teaching Kindergarten

Time Spent Learning to Teach

Table 4 (next page) highlights the statewide averages for the number of minutes devoted specifically to learning how to teach and assess these essential components. To put this in context, a typical semester course has approximately 2,450 minutes for EL1 and 2,750 minutes for EL2. Each of the averages in the table shows the number of instructional minutes within a typical semester course that are focused on learning how to teach a particular component. These minutes only tell part of the story, obviously, but they serve as a solid baseline upon which to build a better pre-service program.

Note: The review found that, on average, EL2 courses had more instructional time allocated than for EL1. This did not appear to be intentional, nor was any rationale provided. It may have been a function of fall and spring schedules and variations in semester holidays.

TABLE 4
Average Number of Minutes within Semester Courses of EL1 and EL2
Spent Learning to Teach These Components of Reading

EL 1 MINUTES			EL2 MINUTES		
Alphabetic Knowledge	Phonological and Phonemic Awareness	Explicit Phonics	Fluency	Vocabulary	Comprehension
54 mins	150 mins	282 mins	114 mins	154 mins	329 mins
Out of approximately 2,450 total instructional minutes in a semester of EL1 20% of course time			Out of approximately 2,750 total instructional minutes in a semester of EL2 22% of course time		

These numbers represent an important baseline and they show that the essential components are not being addressed equitably. For example within a semester course:

- Five programs spent fewer than 90 minutes on phonological and phonemic awareness. One program did not address phonological skills at all.
- Eleven programs did not address letter formation at all.
- Two programs spent less than an hour on the topic of fluency; three programs did not address fluency at all.
- Four programs spent less than an hour on vocabulary instruction.
- Comprehension received the most attention with an average of five hours per semester, but not a single program acknowledged that seven specific comprehension strategies are documented in research to be most effective for teaching and are more powerful in combination.

The original HELC prototypes for EL1 and EL2 appropriately included oral language as a component in both course descriptions.

Generally, the topic of oral language is being addressed in pre-service in three distinct ways: (1) in terms of the phases of reading development, (2) language as a readiness factor for reading instruction, and (3) the language experiences of children.

Technically, oral language within the context of EL1 should be related to phonological awareness. In EL2, oral language is meaning-based and relates to vocabulary and comprehension. Course descriptions may need amending to reflect these distinctions.

Textbooks

Textbooks appear to serve a variety of functions depending on the professor.

- Across programs, the median percentage for assigned readings from textbooks falling outside the scope and sequence of EL1 is 35% (see Table 7) and for EL2 is 30% (see Table 11). This means that approximately a third of required readings in early literacy courses is either not focused on the five essential components or contains information that is not research-based.
- Many EL1 and EL2 professors rely heavily on textbooks for structuring content, yet full debriefings or discussions of content was inconsistent.
- Many professors lamented that undergraduate education majors could not be relied on to come prepared having read the assigned text. This resulted in a range of compensatory measures including reading the textbook aloud to students in class, having students “jigsaw” during class, or not discussing content at all.
- More problematic with textbooks is that many of the textbooks in use do not reflect the core body of effective research or they present conflicting information about best practices.
- Many textbooks encourage practitioners to adopt personal philosophies of reading instruction and to pick and choose what “works best for them,” as if the research basis is irrelevant.
- The newer editions of the same textbook titles are added year to year, sometimes with little improvement in content or updating of the research basis.

I prefer no textbook. How wedded should we be to these textbooks?

Mississippi IHL Pre-service Faculty

General Course Assignments

Many assignments do not necessarily contribute to enhancing knowledge or skills of effective practice. Some do not reflect research-based content. For example:

- Across programs, the median percentage for assignments falling outside the scope and sequence of EL1 is 24% (See Table 8) and for EL2 is 7% (See Table 12).
- Required reading from professional journals and other sources is a fairly standard practice in pre-service programs. However, pre-service candidates are allowed to select these articles with little guidance beyond selecting from a “peer-reviewed” source. (This practice risks focusing on selections that include out-of-scope content or sacrificing research-based approaches for preferred practices based on philosophies.)
- Assembling portfolios is still common, as are creating letter books and creating storyboards.

They graded us on our organization, instead of how to teach. They checked the tabs [on our notebooks] instead of the content.

Pre-service Candidate in IHL Focus Group

We had to read 100 children’s books. What’s the point of that?

Pre-service Candidate in IHL Focus Group

Lesson Plan Assignments

- Several common themes around lesson planning were observed in both EL1 and EL2 courses or emerged from interviews with pre-service candidates. These themes include:
 - 1 difficulties in knowing how to apply standards to instruction
 - 2 literacy activities with no explicit instruction of the skill
 - 3 rubrics that do not support explicit instruction
 - 4 focusing on more than one essential component at a time
 - 5 no time for practicing lessons before demonstrating in the field
 - 6 no requirement to demonstrate teaching all five essential components
- Mississippi College and Career-Ready Standards (MCCRS) are generally required in lesson plans. Usually the lesson plans submitted list the standards, but the instruction outlined in the plan did not always teach to the standard.
- Often lesson plans in EL1 and EL2 are required to be based on teacher-supported literacy activities, e.g., such as read-alouds or guided reading, and include only implicit instruction.

*We have lesson plans in guided reading to unlock the words in context.
2013 IHL Graduate now teaching 1st grade*

- Not all rubrics for lesson planning call for explicit instruction, followed by modeling. This includes the Teacher Intern Assessment Instrument (TIAI) which serves as a standard rubric for evaluating pre-service teaching skills. The TIAI specifies direct instruction, but not explicit modeling.
- EL1 lesson plans did not focus specifically on EL1 components, but included EL2 concepts as well.
- Students reported they did not have enough time to practice their lesson in class prior to delivering them in the field.

*I only observed and then taught a lesson. I freaked out. I didn't know what to do.
Pre-service Candidate in IHL Focus Group*

*I Googled how to write a plan.
Pre-service Candidate in IHL Focus Group*

- Sometimes lesson plans are demonstrated in the field, sometimes not.
- Only about half the programs call for individual lesson plans on the essential components targeted in each of the early literacy courses, and these programs never require lesson plans for ALL FIVE components intended for each course. For example, students in EL2 may be required to plan lessons on vocabulary and comprehension, but not fluency.
- Writing in both EL1 and EL2 is addressed inconsistently. This is reported as a separate finding (#9).

Exams

Exams are a critical feature of effective teacher preparation. What is taught should be assessed and what is assessed should be taught. Assessments can also improve mastery of content and support retention of content, depending on their structure.

- Exam questions are frequently not aligned to intended course content. For example in EL1 the median percentage for exam content falling outside the scope of the course is 34%. (See Table 9.) But in one instance, as much as 72% of exam content was outside the scope of the course. Often exam content that fell outside the scope had to do with mixing of content between EL1 and EL2. For example, questions about fluency and comprehension appeared on EL1 exams. For EL2 the median percentage for exam content falling outside the scope of the course is 56% as shown in Table 13.
- Most examinations do not require students to apply deep knowledge and defend their answers. The most common format for exams and quizzes are multiple choice questions and short answer questions, requiring rote memorization and recall of facts. The few exceptions are highlighted in individual institutional reports.
- Question stems often lacked rigor and in a few instances answer options were confusing or offered no correct response.
- Nine of the 15 IHLs have adopted a written phonics exam in EL1, sometimes accompanied by an oral exam to assess segmenting, blending, and articulation of phonemes.
- In two cases, weekly or frequent topical quizzes related to chapter readings or lectures were administered.
- Even though written lesson plans typically count toward a portion of the total course grade, the study did not uncover any EL1 or EL2 instructors that require *demonstration* of the ability to teach and assess EACH of the relevant five essential components by a pre-service candidate in order to pass the course.

Finding #3. Established research-based knowledge of early literacy instruction remains largely unapplied in preparation and practice.

Interviews with professors acknowledged that some attention is given to exposing pre-service candidates to research, but that at the undergraduate level the emphasis is on the practical, rather than the theoretical. Even so, there were few references by professors to specific research to support practices being taught in pre-service classes.

*Are we up to date on research? Are we current? Do we have weaknesses in syllabi?
Are we reflecting best practices? If not, then we need to be trained.*

Mississippi IHL Pre-service Faculty Member

Generally, there is awareness among pre-service candidates of the importance of applying scientific research to the teaching of reading, but they have little knowledge about the research or how to apply the research to instruction.

- Most early literacy courses list the NRP Report (2000) as a reference. However, there is not a deep understanding of the research in the report and why certain approaches are more effective than others.
- Many professors acknowledged that the National Reading Panel Report was not emphasized in the undergraduate program. Several discounted its importance or questioned its validity as a guiding document for effective practices.
- Only a handful of programs require students to download *Put Reading First* (NICHD, 2001), which offers a reasonable synopsis of how to apply the National Reading Panel recommendations.
- Pre-service focus group participants and faculty alike were hard pressed to describe explicit, systematic, sequential instruction, except to define the individual words. However, there is a growing awareness of the gradual release model that applies “I do. We do. You do.”
- Research was often cited in PowerPoint presentations, which is a common mode of teaching in pre-service courses. These presentations were generally well constructed and informative. However, the research did not always transfer or correspond to early literacy practices being taught.
- Pre-service program planners may be assuming that teacher preparation textbooks are always informed by the most current or reliable research. Many textbooks in use promote “balanced literacy” and urge pre-service candidates to form their own philosophies about teaching reading, suggesting that it is acceptable, and even encouraged, to pick and choose what they perceive to work best for them.

Finding #4. The application of balanced literacy as the primary approach to instruction is the major source of literacy practices that are not research-based.

Central to Finding #3 about the absence of research, balanced literacy is heavily influencing the content of teacher preparation and approaches to reading in the K-3 setting. There is a substantial body of scientific research that does not support the major elements of balanced literacy as best practices for early literacy instruction.

- Many features of balanced literacy instruction are being taught in EL1 and EL2. These include guided reading with embedded skill instruction, application of the cueing system in early reading instruction, and assessment through running records.

I believe in a ‘balanced approach,’ even though that’s not what the research says. To me, ‘balanced’ means phonics is taught within guided reading groups. It’s embedded.

IHL Pre-service Faculty Member

- Phonics activities presented in class and approaches to phonics instruction included in textbook readings are generally embedded phonics.
- When asked to describe a set of practices—both evidence-based and not—pre-service candidates in focus groups were just as likely to know and explain practices not supported by research as those that are supported by research. For example:

Isn't explicit phonics inappropriate?

Pre-service Candidate in IHL Focus Group

Phonemic awareness is where the students tell me the vowel pattern in small group guided reading.

2013 IHL Graduate now teaching Kindergarten

Listening, speaking, reading, writing.

Pre-service Candidate in IHL Focus Group describing the 4-part processor components

- Field experiences are often influenced by balanced literacy practice in the K-3 setting.
- Interviews and observations in the field reflected conflicting messages and levels of understanding relative to reading instruction. For example, principals and mentor teachers expressed expectations regarding “explicit instruction” of early literacy skills by student interns, yet were implementing the districts’ requirement for guided reading, an approach not conducive to explicit instruction.

The need to understand guided reading. That's what our districts require.

Mentor Teacher In a Partner District

Receiving LETRS training was a paradigm shift for me. A whole world of reading exists that I was not aware of.

Mississippi Superintendent In a Partner District

Finding #5. High standards for learning have become the norm for early literacy and in teacher preparation.

Standards have become inextricably bound to the processes of teaching and learning. Pre-service and K-3 lessons are shaped by professionally established standards and including them in course outlines and content is expected and required. This is not to conclude that the standards are always well aligned or that there is a clear understanding of how to teach them.

Standards Applied to EL1 and EL2 Coursework

The EL1 and EL2 syllabi for all but one IHL includes Specialized Professional Association (SPA) standards aligned to course objectives. The most frequently cited sources are IRA/ILA, INTASC, NCATE (National Council for Accreditation of Teacher Education), and ACEI. A core set of standards was fairly common across all institutions, although some institutions listed a variety of additional standards in addition to or in lieu of this core set. Wording of the additional standards varied widely.

- Of the seventeen EL1 syllabi provided for review, eleven included a fairly consistent set of eight to ten standards, primarily drawn from IRA and ACEI standards.
- Of the eighteen EL2 syllabi provided for review, twelve included a fairly consistent set of eight to ten standards, primarily drawn from IRA and ACEI standards.

The common set of standards for both EL1 and EL2 included these familiar ones:

1. Understand reading as an integrated process that results in comprehension/communication as a product.
 2. Understand and apply the research base for effective reading instruction: principles, techniques, theories, philosophies, and historical bases.
 3. Engage children in activities that promote intrinsic motivation to read for pleasure and information.
 4. Understand and promote oral language development.
 5. Be able to assess, formally and informally, the learning needs and gaps of individual children in order to guide precise instruction.
 6. Possess in-depth knowledge of phonemic awareness, the alphabetic principle, and the generalizations that govern the relationship between sounds and symbols (phonics).
 7. Understand how concepts about print, phonics, and phonemic awareness are learned by children and why they are important to the reading and writing process.
 8. Know and be able to apply a wide variety of explicit instructional strategies for helping beginning readers/writers learn concepts about print, phonemic awareness, and phonics.
 9. Understand how vocabulary, fluency, and comprehension are learned by children and why they are important to the reading/writing process.
 10. Possess and be able to apply a wide variety of instructional strategies for helping beginning readers/writers learn vocabulary, fluency, and comprehension.
- Three IHLs listed the same set of standards for EL1 and EL2. In all three cases, the standards listed were appropriate to EL1 and included standards related to the essential components of concepts of print, phonemic awareness, and phonics. The EL2 standards were missing specific objectives for fluency, vocabulary, and comprehension.

Phonemic awareness, syntax, semantics, morphology, phonology?

Pre-service Focus Group Participants attempting to identify the Big Five

Objectives aligned to the standards were not always reflected in course content. For example,

- All fifteen IHLs list the standard on the EL1 syllabus having to do with “assess, formally and informally, the learning needs and gaps of individual children in order to guide precise instruction.” However, five of the IHLs do not include assessment of any kind within their EL1 course outline or assignments.
- All fifteen IHLs list as an objective the teaching of generalizations that govern the relationship between sounds and symbols (phonics). Few programs recognize that phonics should be taught according to an appropriate and specific sequence of skills.
- In a few instances, the standards served as an excellent and detailed roster of skills to be taught. In other cases, standards included subject areas of interest and relevance to elementary education majors, but outside the scope of EL1 or EL2. For example, frequently cited standards included family involvement, classroom management, and professionalism.
- Three programs have incorporated standards from the International Dyslexia Association (IDA).

Students need to leave here being able to teach phonics and to set up a phonics program. Our elementary majors are going to have to step up to the plate.

Mississippi IHL Pre-service Faculty

Standards Applied to K-3 Early Literacy Instruction

Mississippi College and Career Ready Standards (MCCRS) are integral to pre-service candidates' lesson planning. The Mississippi Language Arts Framework is still referenced in many syllabi in addition to the MCCRS.

- The majority of pre-service faculty reported that they had participated in training about state standards through MDE. Several reported that they had served as trainers.
- Course outlines frequently included some time spent applying standards to early literacy instruction. It was not apparent, except in a few excellent cases, where time was spent explaining the structure of the MCCRS or the sequential characteristics of the early literacy standards in particular.
- In lesson plan samples provided, instruction did not always directly support the standards.
- Professors reported that pre-service candidates have difficulty writing objectives for lessons. This was acknowledged by pre-service candidates in the focus groups.

We need a whole seminar just on writing objectives [based on the state standards].

Pre-service Candidate in IHL Focus Group

- A few campuses have developed excellent presentations for examining the MCCRS in greater detail. These professors are willing to share these with other teacher preparation programs.

Below is an excerpt from an EL2 presentation at one IHL on how the standards are organized.

How Are Anchor Standards Organized?

Text Types & Purposes

Write an argument or state a claim.

Write informative/explanatory to explain and convey ideas.

Write narratives to develop real or imagined experiences.

Production and Distribution

(Grade 3) Produce clear and coherent writing in which the development, organization and style are appropriate.

Develop and strengthen writing as needed by planning, revising, editing, re-writing.

Use technology to produce and publish writings.

Research to Build and Present Knowledge

Conduct short, as well as, more sustained research projects based on focused questions and demonstrations.

Gather information from multiple sources and demonstrate knowledge

(Grade 4) Draw evidence from literary or informational texts to support analysis, reflection and research.

(Grade 3) Wide range of topics, wide range of literature

Common Core has strengthened teacher preparation.

Principal in a Partner School

Finding #6. Opportunities to observe instruction being modeled followed by opportunities to practice are insufficient for developing entry-level skills for teaching.

This finding is about how often pre-service candidates benefit from a professor or mentor teacher modeling instruction, and to the quality of the instruction being modeled. It is also about how often pre-service candidates see instruction demonstrated that is followed by an opportunity to practice, and then followed by meaningful feedback.

It really helps when they show us how.

Pre-service Candidate in IHL Focus Group

They've had no practice teaching in the class. I recommend more observations. They haven't seen it modeled. They've never seen a teacher conduct a lesson. They need to practice teaching it after they've seen it in the field. They need more phonics, more on scope and sequence, and more questioning techniques.

2015 Mentor Teacher

In-Class Modeling by Faculty

Explicit, sequential, systematic means that I have to model, not just tell them; that order makes a difference; the lesson should be predictable—the students should know what's coming and at the end know what they've learned."

Mississippi IHL Pre-service Faculty Member

- Pre-service candidates overwhelmingly reported the value of seeing instruction modeled for them. When asked if this is occurring in pre-service classes many focus group participants answered affirmatively. However, what they described were demonstrations of literacy-based practice activities and not explicit teaching of the five essential components.
- During interviews and observations what pre-service candidates often described as "modeling" by professors were quick examples or demonstrations of a literacy activity: (1) providing examples of words that contain a particular spelling pattern in a PowerPoint presentation or by writing them on the board; (2) having students conduct a quick word sort without first teaching the concept to be sorted; or (3) having students practice administering a fluency assessment without first explaining procedures.

I wish they had taught us more about the five components. I wish we had worked on those every day. I would have liked for our professors to let us stand up and teach in our classes, as if we were teaching to students. My friends from other colleges say the same.

2014 IHL graduate now teaching Kindergarten

Modeling early literacy instruction is not the norm in pre-service classes.

- Although videos showing effective teaching practices were used in some courses, modeling of research-based instruction by professors appeared episodic or non-existent.
- Course outlines do not reflect that modeling is strategically placed or consistent within individual course sections or across the state.

- The format of instruction in most EL1 and EL2 classes observed revolved around a PowerPoint presentation of material. The purpose of this format appears to be to provide background information about various topics. Generally, these were well-constructed and informative, although not always specific to a specific learning outcome or objective.
- During interviews, many professors talked about the importance of modeling. However, modeling of explicit, research-based instruction was observed in only sixteen classes out of 71 observed. Among these sixteen, only one provided a complete lesson cycle followed by an opportunity for candidates to practice. (*Note: A complete lesson cycle is defined here as a lesson that begins with a stated objective through direct instruction and modeling and concludes with a check for mastery.*)

There is a lot of describing, but not a lot of modeling. There are also many literacy activities taught or practiced, and not enough direct instruction to teach skills.

I felt like I should have been taught how to teach phonics. They were small classes that could have been effective in doing this.

Mississippi IHL 2015 Student Intern

We say it a lot [explicit and systematic]. We can't just tell students. We have to model it.

Mississippi IHL Pre-service Faculty

Learner Snapshot

Exhibit 1 (on the next page) provides the percentage of the 68 classes (out of a total of 71 classes observed) in which observation notes were used to inform a Learner Snapshot. The purpose of the Learner Snapshot was not to assign a score, but rather to create a general profile from the pre-service candidate's perspective of the learning experience in early literacy courses.

Pre-service literacy faculty members are encouraged to review the Learner Snapshots in the individual institutional reports. This review will help them understand how best practices in the undergraduate setting can enhance the pre-service candidate learning experience.

EXHIBIT 1
Learner Snapshot - Statewide Results
Percentage of 68 Classes in which Item was Recorded on a Learner Snapshot

<u>LEARNER SNAPSHOT – Statewide Results</u>	
<u>Objective</u>	
47%	Session’s objective was visible or clearly conveyed.
89%	Objective, as stated or implied, was appropriate to course goals.
<u>Content</u>	
74%	ALL content presented related to course objective and was logically sequenced.
50%	ALL content was accurate and supported by the convergence of science in early reading.
<u>Instructional Format</u>	
85%	If content presented in lecture format from PowerPoint or textbook, it did not consume more than 50% of class time.
48%	Content presented in multiple and complementary forms (e.g., graphs, narration, etc.).
61%	Whole group interactive activity was used to illustrate a concept.
48%	Small group or partner work (project based/collaborative learning) related to teaching or assessing an early literacy skill appropriate to this course.
11%	Activity included independent work (e.g., Do Now, “hook”, quiz).
<u>Direct Instruction</u>	
29%	Previously assigned readings, activities, quizzes, and/or field experiences were explicitly debriefed.
55%	Instructor provided direct instruction about the concept (prior to and distinct from modeling) with clear explanations and examples.
58%	Instructor challenged students to think critically resulting in deeper discussion & purposeful student questions.
23%	Instructor used effective method(s) to check for understanding (e.g., summary debrief, exit ticket, classroom response system, etc.).
<u>Modeling</u>	
24%	Instructor modeled how to teach or assess an early literacy skill appropriate to objective.
38%	Instructor showed examples of literacy activities.
24%	Video or other media was used to illustrate or model instruction or assessment of an early literacy skill appropriate to the course.
<u>Student Practice</u>	
18%	Student(s) practiced how to teach or assess an early literacy skill.
26%	Student(s) presented material or led discussion about an early literacy concept or skill.
<i>Note: Beyond the first two sections on Objective and Content, it is not expected that all of these would be observed in a single session.</i>	

- In half (50%) of the classes observed where a Learner Snapshot was recorded, some of the information conveyed was not supported by the science. (See Findings #3 & #4 for recommendations related to this issue.)

- In 24% of the classes observed where a Learner Snapshot was recorded, the professor modeled an explicit and structured lesson on an early literacy skill. This compares to 38% of the classes, where professors showed examples of literacy-based practice activities.

Several of the deans stated they encourage an open classroom policy within teacher preparation programs where faculty members are encouraged to observe each others' teaching. This practice of peer observations is not typical in higher education, however, in the context of teacher preparation it is appropriate for strengthening pre-service instruction in the same way it is encouraged in the K-12 setting as a model for reflective professional learning.

Fieldwork as Time for Practice

In the context of Finding #6, fieldwork should provide critical time in the K-3 setting for honing skills through observing others and opportunities for practice.

- Observation of instruction or working one-on-one with students are often not sufficiently debriefed to be useful to the pre-service candidate.
- Students must accrue time in the field, but assigned tasks in the field are not always associated with a specific, measurable learning objective for the pre-service candidate.

They should have to teach a full lesson in the field and receive feedback from the mentor teacher and the professor, then return to the school and reflect. This should happen all before student teaching.

Principal in an IHL Partner School

Finding #7. Time in the field associated with early literacy instruction has increased significantly.

It is not enough...to have the textbook knowledge.... One must also grasp the clinical reality, with its nuances of timing and sequence. One needs practice to achieve mastery, a body of experience before one achieves real success. And if what we are missing when we fail is individual skill, then what is needed is simply more training and practice.

The Checklist Manifesto: How to Get Things Right (Gawunde, 2009)

Since the 2003 Study, all programs have significantly increased the time allotted to early literacy practicum experiences.

- In 2003 few courses required fieldwork specific to early literacy. Today's average is 10.5 hours for each of EL1 and EL2.
- As recommended in the 2003 BRI report, several programs now mandate that pre-service candidates participate in the first and last weeks of school in a K-3 setting. This practice enables pre-service candidates to observe the classroom management challenges that can occur at the start of school, as well as the tasks of bringing closure to a year of academic work on the last day. During K-3 setting interviews, many recent graduates recommended that this requirement be added to the internship experience.

- Common activities in fieldwork reported by pre-service candidates and noted in course schedules include observing classes, assisting with literacy centers, conducting informal assessments, one-on-one tutoring or partner reading, and occasionally delivering small group or whole group instruction.
- Related to the efficacy of fieldwork, because lesson plan assignments (e.g., read alouds and guided reading) require pre-service candidates to teach more than one component within a single lesson they miss the opportunity to learn to teach each component explicitly, sequentially, and systematically.

Note: In the context of EL1, read alouds and guided reading *are* appropriate for teaching concepts of print. In the context of EL2, read alouds and guided reading *are* appropriate for developing students' vocabulary, content knowledge, comprehension, and use of text structure. Read alouds are not a substitute for explicit and direct instruction of any of the components of reading.

- Explicit instruction does not appear as a criterion in all rubrics for evaluating lesson plans delivered during fieldwork. Weighting specific strands of the TIAI could address this critical missing element.
- Finding K-3 classrooms that offer rich and reliable practicum settings to support teacher preparation remains a challenge. Prior to the internship semester, there is often not a coordinated schedule of activities between pre-service faculty and the mentor teachers. Pre-service candidates report serving as just another set of hands in the classroom.

It really depends on the mentor teacher. Sometimes we're just there sitting in the back of the room or acting as an assistant for paper handling.

2015 Student Intern

Finding #8. Almost all programs offer a distinct assessment course specific to reading difficulties.

Among the practical skills every elementary education teacher must have, accurate assessment of reading difficulties is imperative. Even though there are more and more professionals serving in intervention roles in the K-3 setting, classroom teachers must be informed about assessment, interventions, and progress monitoring.

- Since 2003, 13 of the 15 IHLs now offer a stand-alone assessment course at the undergraduate level.
- All of the assessment courses are specific to assessing reading difficulties and often they have a fieldwork component.
- There is a gap in the content of the assessment courses. The focus is on informal assessments and case studies using analytical reading inventories, running records, and interest inventories. Very little attention is given to specific instruments that can pinpoint skill gaps in early literacy skills, such as phoneme segmentation or decoding single and multisyllabic words.
- Pre-service candidates are receiving little training in the use of diagnostic tools or formal assessments, such as curriculum-based or other benchmark assessments.
- Case studies built on informal reading assessments are a common requirement in pre-service programs. Samples of case studies provided lacked accuracy and specificity in identifying and addressing reading deficits.

- Modeling the administration of assessments is inconsistent in pre-service programs. When it does occur, modeling is generally confined to informal assessments. Some focus group participants indicated that modeling of informal inventories is not effectively narrated by professors to yield a clear understanding.
- Pre-service candidates have a general understanding that tailoring reading instruction for students begins with some type of fluency assessment. Participants in most of the 20 pre-service focus groups had some knowledge of fluency benchmarks, including the approximate rate for end of third grade. Very few were aware of the importance of accuracy and how to calculate it.
- Most recent graduates interviewed were familiar with STAR and DIBELS assessments because they were trained by their districts after they began teaching. They used these assessments primarily for universal screening and progress monitoring.

We've only given a phonological awareness assessment. We did it on our own and wrote a report of recommendations. I don't really understand the phonological component.

Pre-service IHL Focus Group participant

We only assess fluency at the beginning of the year.

2013 IHL graduate now teaching 3rd grade

Our favorite is the CRI [Comprehensive Reading Inventory]. It's the only one we've learned how to do.

Pre-service IHL Focus Group participant

- When describing appropriate steps to help a struggling reader, focus group participant responses lacked specifics beyond informal inventories about where to start or how to proceed:

I try to find the issue. What aspects are they struggling with? Is it decoding or comprehension?

2012 IHL Graduate now teaching in a 2nd grade

First ask them their reading level; then find them a book.

Pre-service IHL Focus Group participant on how to help a struggling reader

I'd decode the words for them.

Pre-service IHL Focus Group participant

I'm a struggling reader. I'd tell them a strategy I use: point to the words.

Pre-service IHL Focus Group participant

- Pre-service candidates could offer very few specifics about what to do when faced with a struggling reader. Response to Intervention (RtI) is a familiar concept to pre-service candidates, but they have incorrect information about the process. Participants in almost every focus group across the state used these words to describe what RtI means:

Tier 1 is whole group. Tier 2 is small group. Tier 3 is one-on-one.

Pre-service IHL Focus Group participants

Every intervention has all 5 components of reading.

Pre-service IHL Focus Group participant

- Some focus group participants described RtI as a special education program, as opposed to general education.
- Assessment courses, where offered, do not always include RtI as a standard topic in course content.

Finding #9. Writing as a literacy component is inadequately addressed.

Pre-service candidates and professors universally reported that the teaching of writing is inadequately addressed in teacher preparation. The Language Arts Methods and Content Area Literacy courses appear to be where the writing process is primarily taught. EL1 has a role in addressing these aspects of writing: letter formation, handwriting, and encoding/spelling. EL2 should incorporate how writing supports vocabulary and comprehension.

- In most EL1 courses the phases of reading and writing are discussed.
- Only two programs required a specific assignment about the reading/writing connection in EL1. In one case pre-service candidates are required to assess writing; the other required a lesson plan on interactive writing.
- Handwriting (a skill related to letter formation and encoding) was noted in the syllabus of only one of the early literacy courses.
- Nine IHLs require an EL2 assignment associated with the reading/writing connection. The objectives for these assignments are varied. The assignments include collecting and assessing samples of children's writing, lesson plans on interactive writing, creating a graphic organizer, writers' workshops, and writing a children's book.

IV. STATEWIDE AGGREGATE DATA FOR EL1 AND EL2

A. Overview of Statewide Aggregate Data

It was clear from our study that IHLs vary greatly in degrees of alignment to the intended purposes of EL1 and EL2.

The tables show percentages of actual content that align with intended content and research in four key areas: (1) overall course content, (2) textbooks, (3) assignments, and (4) exams. These percentages illustrate the most alignment, the median alignment, and the least alignment to content and research for each of the four areas addressed in the study. This was a simple way indicate the variance in how IHLs structure EL1 and EL2 courses.

B. How to Interpret the Data Tables in this Section

Table 5 below is used to illustrate how to interpret all the tables in this section. (Table 5 is an illustration based on Table 7 in subsection E with the other tables about EL1 content.)

Table 5 shows the percent of content in assigned textbook readings for EL1 courses, broken into the categories:

- Column 1 – Reading related to “How to Teach EL1 Intended Content”
- Column 2 – Reading related to “Background Knowledge about EL1 Content”
- Column 3 – Reading “Outside the Scope of EL1 Intended Content”

Rows 1, 2, and 3 show the percentages of the reading from textbooks about content included for EL1.

- Row 1 shows the percentage that was the most alignment for each column (category).
- Row 2 shows the median alignment for each column (category).
- Row 3 shows the least alignment for each column (category).

The percentages in each cell could be from different IHLs. For example, in Row 1, the percentage in Column 1 could be from one IHL that had the highest percentage of readings aligned to “How to Teach EL1 Intended Content”. In Row 2, the percentage in Column 1 may be from a different IHL that had the median percentage, and Row 3 might be yet a different IHL that had the lowest percentage. The same is true when looking at the percentages in Columns 2 and 3, each could also be from different IHLs.

The percentages in Column 3 range from lowest in Row 1 to highest in Row 2 because for “Outside the Scope of EL1 Intended Content,” the lowest percentage is most aligned to intended course content and the highest percentage is the least aligned to intended course content.

**TABLE 5: SAMPLE
ILLUSTRATION FOR INTERPRETING DATA TABLES FOR EL1 & EL2
EL1 ASSIGNED TEXTBOOK READINGS
Alignment of EL1 to Intended Purpose & Research**

		Column 1	Column 2	Column 3
		How to Teach EL1 Intended Content "THE HOW"	Background Knowledge about EL1 Concepts "THE WHAT"	Outside Scope of EL1 Intended Content
Row 1	Most Alignment	54%	77%	10%
Row 2	Median Alignment	22%	27%	35%
Row 3	Least Alignment	6%	21%	58%

Each column in the table shows the range of percentages from most to least aligned:

- Column 1 – The percent of textbook assignments aligned with how to teach EL1 intended content ranged from a high of 54% to a low of 6%.
- Column 2 – The range for percent of textbook assignments aligned with background knowledge related to EL1 intended concepts ranged from a high of 77% to a low of 21%.
- Column 3 – The range for content outside the intended content of EL1 is 10% for the most alignment and 58% for the least alignment.

C. Introduction to Statewide Aggregate Data

The data examined for the EL1 and EL2 courses at thirteen* of the IHLs are aggregated and discussed in this section. The aggregate data show the degree to which EL1 and EL2 courses across the state are aligned to the intended purposes of EL1 and EL2.

**Two IHLs combined EL1 and EL2 into one block taught as a single course. These single-block courses required a different approach for analysis. All of the content was collapsed into a single course and analyzed as a unified syllabus. Data from these two courses are not included in the aggregate data. However, the aggregate data from these two courses fits within the range of data for the statewide aggregate.*

Review of course schedules, syllabi, textbooks, assignments, and exams were the primary sources for these analyses. For some courses the schedules lacked detail, making it difficult to assess class content and assignments. In these cases, interviews with professors and pre-service candidates, coupled with a review of assigned readings and class assignments, were used to estimate the types of activities generally occurring during class time.

EL1 and EL2 courses at each IHL were thoroughly reviewed. Therefore, these aggregates provide a fairly reliable profile of the emphasis placed on the intended content for the courses. IHLs can compare their individual institution reports against the statewide data.

Aggregate data for EL1 courses are discussed in subsection E and for EL2 courses in subsection F.

D. Overview of Tables for EL1 and EL2 Review

The aggregate data for the statewide review of EL1 and EL2 courses are shown in tables in the next two subsections. When reviewing EL1 and EL2 courses, we looked at four major areas and summarized the percentage of time or content devoted to the intended purpose of the course. The four areas examined were:

- Course content
- Textbooks
- Assignments
- Exams

Each table has one or more columns, depending on which topics are applicable to the specific area in the table. Each column in a table shows percentages for three IHLs: the IHL with most, median, and least alignment to the intended course content.

It should be noted that in the “outside of scope” column, the smallest percentage is most aligned and the largest percentage is least aligned. For example, in Table 5, the IHL with 10% of course content “outside the scope” was more aligned to EL1 purpose than the IHL with 58% of course content “outside the scope.”

Some of the columns vary for EL1 and EL2. The columns specific to EL1 and EL2 are explained in the following sections.

E. Tables for EL1 Review

The columns in each of the aggregate tables represent a function within the EL1 course. Table 4 has all five of the columns described below. Tables 6-9 have only three or four of columns, which are applicable to the part of the course being reviewed.

Column descriptions are:

- *How to Teach EL1 Intended Content* – Percentage of the content that focused on developing clinical skills for teaching the components. (THE HOW)
- *Background Knowledge about EL1 Intended Content* – Percentage of the content that focused on information related to the concepts (e.g., research, standards, curriculum, Rtl, assessment, ELL) but not directly related to instructional techniques. (THE WHAT)
- *Fieldwork* – Percentage of course time devoted to pre-service candidates either observing or conducting instruction related to EL1 intended content in a K-3 setting. In a few cases, activities associated with literacy conferences or book fairs were counted in this category.
- *Outside the Scope of EL1* includes the percentage of area examined that was devoted to topics either unrelated to EL1 concepts or not supported by research. Examples are: content related to EL2, general education theory, classroom management, literacy above 3rd grade, non-explicit instruction.

TABLE 6
EL1 COURSE CONTENT
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach EL1 Intended Content "THE HOW"	Background Knowledge about EL1 Concepts "THE WHAT"	Fieldwork Specific to EL1 Instruction	Outside Scope of EL1 Intended Content
Most Alignment	39% (HOW)	34% (WHAT)	46%	5%
Median Alignment	21% (HOW)	22% (WHAT)	24%	20%
Least Alignment	10% (HOW)	7% (WHAT)	0%	47%

TABLE 7
EL1 ASSIGNED TEXTBOOK READINGS
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach EL1 Intended Content "THE HOW"	Background Knowledge about EL1 Concepts "THE WHAT"	Outside Scope of EL1 Intended Content
Most Alignment	54% (HOW)	77% (WHAT)	12%
Median Alignment	22% (HOW)	27% (WHAT)	35%
Least Alignment	6% (HOW)	21% (WHAT)	58%

TABLE 8
EL1 ASSIGNMENTS
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach EL1 Intended Content “THE HOW”	Background Knowledge about EL1 Concepts “THE WHAT”	Fieldwork Specific to EL1 Components	Outside Scope of EL1 Intended Content
Most Alignment	44% (HOW)	60% (WHAT)	39%	0%
Median Alignment	27% (HOW)	14% (WHAT)	24%	24%
Least Alignment	0% (HOW)	0% (WHAT)	0%	65%

TABLE 9
EL1 EXAMS
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach EL1 Intended Content “THE HOW”	Background Knowledge about EL1 Concepts “THE WHAT”	Outside Scope of EL1 Intended Content
Most Alignment	83% (HOW)	55% (WHAT)	3%
Median Alignment	35%	28%	34%
Least Alignment	0% (HOW)	13% (WHAT)	72%

F. Tables for EL2 Review

The columns relating to EL2 content in Tables 10-13 differ somewhat from the columns in EL1 tables. In the EL2 tables, “learning how to teach” and “background knowledge” are combined in the same column for each of the components, whereas they are separated as two functions in the EL1 tables for all of the components.

The three columns with learning how to teach and background knowledge related to the intended EL2 course content are:

- *Learning How to Teach and Background Knowledge for Fluency*
- *Learning How to Teach and Background Knowledge for Vocabulary*
- *Learning How to Teach and Background Knowledge for Comprehension and Writing*

Two columns that are the same for EL1 and EL2 are:

- *Fieldwork* includes any observations or activities specific to the three EL2 components that were carried out in a K-3 setting. In a few cases, activities associated with literacy conferences or book fairs were counted in this category.
- *Outside the Scope of EL2* includes the percentage of the course devoted to any topic not related to teaching or assessing EL2 concepts or activities not supported by research. Examples of items included in this category were activities related to EL1, general education theory, classroom management, and literacy above 3rd grade.

TABLE 10
EL2 COURSE CONTENT
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach and Background Knowledge			Fieldwork Specific to EL2 Instruction	Outside Scope of EL2 Intended Content
	Fluency	Vocabulary	Comprehension & Writing		
Most Alignment	17% (F)	20% (V)	48% (C/W)	36%	0%
Median Alignment	10% (F)	14% (V)	25% (C/W)	25%	14%
Least Alignment	0% (F)	5% (V)	13% (C/W)	0%	40%

TABLE 11
EL2 ASSIGNED TEXTBOOK READINGS
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach and Background Knowledge			Outside Scope of EL2 Intended Content
	Fluency	Vocabulary	Comprehension and Writing	
Most Alignment	27% (F)	35% (V)	82% (C/W)	0%
Median Alignment	11% (F)	15% (V)	42% (C/W)	30%
Least Alignment	0% (F)	5% (V)	19% (C/W)	68%

TABLE 12
EL2 ASSIGNMENTS
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach and Background Knowledge			Fieldwork Specific to EL2 Components	Outside Scope of EL2 Intended Content
	Fluency	Vocabulary	Comprehension and Writing		
Most Alignment	21% (F)	26% (V)	84% (C/W)	49%	0%
Median Alignment	10% (F)	19% (V)	25% (C/W)	32%	7%
Least Alignment	0% (F)	3% (V)	13% (C/W)	0%	61%

TABLE 13
EL2 EXAMS
Alignment to Intended Purpose & Research

(Columns and rows do not total to 100% because each cell shows a percentage for only one IHL, and the percentage in each cell may be from different IHLs.)

	How to Teach and Background Knowledge			Outside Scope of EL2 Intended Content
	Fluency	Vocabulary	Comprehension and Writing	
Most Alignment	44% (F)	32% (V)	83% (C/W)	0%
Median Alignment	18% (F)	18% (V)	40% (C/W)	20%
Least Alignment	0% (F)	0% (V)	15% (C/W)	56%

Administrative Portion of Courses

Part of the individual institutional reviews also examined what percentage of the course was devoted to administrative details, such as reviewing the syllabus, giving instructions relative to fieldwork, and/or administering quizzes and exams. This information is reported anonymously below for EL1 and EL2 from lowest percentage to highest percentage of course content.

TABLE 14

EL1 Course Content Devoted to Administrative Tasks & Exams															
NA	NA	0%	2%	7%	8%	9%	10%	10%	11%	11%	12%	17%	17%	20%	32%

TABLE 15

EL2 Course Content Devoted to Administrative Tasks & Exams															
3%	4%	8%	8%	10%	13%	13%	13%	14%	16%	17%	18%	19%	23%	25%	26%

Note: Median for each is highlighted in gray. NA means course outline was not provided for this course at two particular sites. The cells in Table 14 do not correspond directly with the cells in Table 15. The cells in each of these Tables do not total 23* sites because they do not include the blocked versions, but they do include some of the satellites.

V. THE FOUR STUDY QUESTIONS ANSWERED

The answers to the Four Study Questions reflect statewide themes. Specific findings may not apply to every teacher preparation program. However, findings in this section should be interpreted as occurring more often than not.

1. Do the early literacy courses EL1 and EL2 meet the intent of the licensure requirement to strengthen early literacy instruction?

EL1 and EL2 partially meet the intent of licensure, based on these findings:

- The five essential components of reading instruction are now common to almost all Mississippi Teacher Preparation Programs through the state-mandated courses.
- EL1 & EL2 course content, textbooks, assignments, and exams are not fully aligned with the intended purpose and research base.

Recommendation 1.1: Standardize the structure and content of EL1 & EL2. Establish a core curriculum with common features: standard syllabus and course outline, approved list of textbooks and sequence of articles on the science, consistent guidelines for teaching the reading/ writing connection, increased structure to field experiences tied to learning objectives, required demonstration of proficiency in teaching five essential components.

Recommendation 1.2: Protect focus of EL1 content on oral language (as it relates to phonology), and the essential components of concepts of print, phonological/phonemic awareness, phonics, plus handwriting. Protect the focus of EL2 content on oral language (as it relates to vocabulary and comprehension), and the essential components of fluency, vocabulary, comprehension plus writing. Teach practices and strategies for each component individually within a class session until mastered before introducing other skills in the integrated process of reading.

Recommendation 1.3: Include only research-based principles and practices in teacher preparation so that best practices can be transferred to the K-3 setting. This includes an emphasis on synthetic phonics because the synthetic phonics approach is supported by research to have the greatest effective sizes on low-SES students (NRP, 2000; Hattie, 2009). Require pre-service candidates to pass an oral phonemic articulation and written phonics test with 100% proficiency.

2. Do the early literacy courses sufficiently equip pre-service candidates with the foundational knowledge and practical skills required to deliver effective reading instruction in K-3 on "day one?"

Early literacy courses only partially equip pre-service candidates with knowledge and skills for teaching on day one, based on these findings:

- Pre-service candidates and recent graduates have limited knowledge about how to deliver explicit and sequential instruction.

Recommendation 2.1: Create campus-based mock K-3 classroom to support regular observation of instruction with feedback and to enable simulation of literacy block rotations. Direct instruction of a skill should be distinguished from showing examples of literacy activities.

- Pre-service candidates report that they have difficulty translating standards into meaningful objectives for instruction.

Recommendation 2.2: Include a module in the early literacy sequence on the structure of MCCRS and how to write student-friendly objectives based on the standards that are effectively supported by instruction. Several teacher preparation programs have developed modules on understanding the standards that could serve as useful prototypes.

- Pre-service candidates have limited knowledge of how to assess reading skills or specific strategies for helping struggling readers.

Recommendation 2.3: Increase exposure to a broader array of assessment instruments and their use to inform instruction. Provide pre-service students with an appropriate sequence to gauge early literacy skills against recognized benchmarks.

Recommendation 2.4: Within EL1 and EL2 content, make clear the distinctions in Tier 1, Tier 2, and Tier 3 instruction, as well as provide practice in how to write targeted interventions and execute with effective pacing.

- Pre-service candidates are not required to demonstrate proficiency in explicit instruction of ALL FIVE components of reading.

Recommendation 2.5: Require teacher candidates to demonstrate a complete explicit and structured lesson for each of the essential components, plus writing, prior to graduation.

Recommendation 2.6: Adopt and use a research-based scope and sequence for teaching phonics skills

- Pre-service candidates are not required to demonstrate proficiency in assessing ALL FIVE components of reading.

Recommendation 2.7: Require teacher candidates to demonstrate proficiency in assessing the individual components of reading, plus writing prior to graduation.

- Preparation does not sufficiently equip candidates to evaluate and adapt or supplement literacy materials in order to maximize explicit instruction. Although basal textbooks are routinely reviewed, these reviews do not judiciously examine how aligned the activities and lessons are with research-based instruction.

Recommendation 2.8: Incorporate an analysis of state-adopted materials in EL1, EL2, and/or the Language Arts methods course to familiarize pre-service candidates with how these materials approach instruction and incorporate MCCRS.

New teachers must be knowledgeable enough about what constitutes effective instruction to successfully navigate the waters of curriculum and instruction in any K-3 setting. Ideally and over time, these newly-minted teachers will influence decisions made about instruction and products in the public schools to better reflect evidence-based choices.

3. Are there gaps or duplications in the scope, sequence, and content of early literacy courses that might prevent efficient and sufficient preparation for early literacy instruction?

Early literacy courses at some IHLs have gaps and duplications in the scope and content of the courses and irregularities in the sequence of the courses, based on these findings:

Note: Institutional reports provide more detailed information about gaps and duplications at each institution.

- There are **gaps in the scope** of early literacy content on most campuses. These gaps are specific to learning about assessment and the inadequate attention to writing as a component of literacy.

Recommendation 3.1: Review objectives and course outlines in the reading sequence for these missing elements intended by licensure. Ensure consistency of approaches and best practices when similar objectives apply to more than one course (e.g., universal screeners, teaching spelling).

- There are **duplications in the scope** of early literacy instruction on a few campuses resulting in inefficient use and impact of the 15-hour sequence. Some duplications are reasonable, even desirable (e.g., teaching comprehension in EL2 and also in the Language Arts Methods and Content Area Literacy courses.) Other duplications are inefficient and create confusion (e.g., campuses offer courses with very similar or same course descriptions and objectives, but different titles.)

Recommendation 3.2: Review course titles, course descriptions, course objectives, and course schedules for all required and elective courses in reading to (a) address duplications with other courses, and (b) ensure alignment of content to intent of each course. On occasion, objectives are listed in syllabi that are either not supported in course content or have the effect of diluting the focus of the course.

- There are **numerous gaps in the content of EL1 and EL2** in adequately addressing all five essential components, plus writing. These EL1 and EL2 gaps are addressed in recommendations related to Question #1. The critical role that EL1 and EL2 play in the context of the 15-hour requirement cannot be overstated.
- Other specific **gaps in content** include a clear understanding of the research base related to early literacy instruction, information about formal assessments, the 3-tier model of instruction and RtI, and writing as a constituent of literacy.

Recommendation 3.3: Assemble a sequence of articles specific to the core body of research on effective early literacy instruction as required readings for pre-service students. Several teacher preparation programs have begun this process and can serve as models. BRI is also preparing a list of recommended readings.

Recommendation 3.4: Expand assessment course content to include formal assessments, a full explanation of the RtI process, and the distinctions between Tier 1, Tier 2, and Tier 3 instruction.

Recommendation 3.5: Revisit objectives of all early literacy courses to secure the teaching of writing as a constituent of literacy instruction. Several teacher preparation programs are beginning to do this and can serve as models.

Recommendation 3.6: As a useful planning document, develop a matrix that maps key concepts and skills as they are acquired through the entire elementary education sequence of courses. The matrix would be designed to identify in which course(s) and at what level the key concepts are taught (e.g., does the course introduce, develop, or reinforce a concept and skill?) In addition to general skills such as lesson planning, rubric development, and differentiation of instruction, programs would be strengthened by establishing where the following literacy-specific skills are introduced, developed, and reinforced in the sequence.

- The five essential components of reading
- The phonological awareness continuum of skills
- A scope and sequence for teaching phonics
- Assessment to identify specific reading difficulties
- Process and rationale for RtI
- Modeling explicit instruction
- Interpreting and communicating assessment data
- Structure of MCCRS Foundational Reading Skills

One teacher preparation program has created a matrix that can serve as a prototype. Possible consideration might be given to amending the “RDG” prefix to “LIT” prefix to better reflect the inclusion of writing into early literacy.

- There are **irregularities in the sequence** of early literacy courses across the state. For example, on some campuses the courses occur simultaneously. On other campuses they occur in discrete semesters. This results in a wide disparity in instructional hours campus to campus.

Recommendation 3.7: A more consistent structure would ensure greater equity of opportunity and preparation for all pre-service candidates. Based on pre-service candidate and faculty interviews, as well as the nature of early literacy content, the study team concluded that the following sequence would best support the development of effective practice: EL1 in the fall of junior year, EL2 in the spring of junior year, and a reading assessment course in the fall of senior year.

4. Are pre-service candidates exposed (whether in class or in the field) to pedagogy that reflects best practices supported by current and valid literacy-related research?

Pre-service candidates are not consistently or adequately exposed to pedagogy that reflects best practices supported by current and valid literacy research, based on the findings below. This knowledge of the science and pedagogy is missing from pre-service classes, as well as field experiences.

- The established research-based knowledge of early literacy instruction remains largely unrecognized in pre-service course work.

Recommendation 4.1: One or more early literacy professors from all 15 university programs and 104 pre-service candidates from three programs have participated in at least one phase of LETRS training. Work is needed to translate this information into pre-service content and instruction. All professors of EL1 and EL2 should be required to attend all LETRS modules.

LETRS really encouraged me to step up my game, to make my teaching much more rigorous. I really wish I'd taken it before I began to teach EL1 & EL2.

-Mississippi IHL Pre-service Faculty Member

Recommendation 4.2: Disseminate a sequence of articles specific to the core body of research on effective early literacy instruction as part of a credentialing process for pre-service faculty. BRI is also preparing a list of recommended readings.

Recommendation 4.3: Supplement or replace textbooks, which provide inaccurate or incomplete presentations of the evidence-based practices with selected readings that draw on salient research. Discontinue the practice of having pre-service candidates select their own articles.

- Exposure to pedagogy is mostly characterized by demonstrations of literacy activities or mini-lessons rather than direct and explicit modeling of instruction within a full lesson cycle followed by practice.

Recommendation 4.4: Shift primary focus from demonstrating literacy activities to regular modeling of explicit instruction in each of the essential components of reading within a systematic sequence. This type of modeling enables pre-service candidates to understand how early literacy skills fit into a sequence of instruction, as well as how skills apply to the larger context of the reading process. Understanding of the Simple View of Reading (Gough & Tunmer, 1986), the 4-part Processor Model (Seidenberg & McClelland, 1998) and Scarborough's Rope Model (Scarborough, 2001) would support this understanding.

Recommendation 4.5: Review research about best teaching practices upon which the Learner Snapshots are based; incorporate best practices from adult learning theory and the literature on organizing for effective instruction in all pre-service instruction and assessment.

This final question speaks to the knowledge and skill required to teach early literacy, the research-basis for early literacy instruction, and the art of teaching. It is the paramount role of teacher preparation to blend the science with the art of teaching. It is the responsibility of the professors to know the science, model effective practice, and assess pre-service candidates on performance.

We need a better training mechanism for new faculty. Some courses are sacred. Some, like EL1 and EL2 should not fall under academic freedom. This should be considered statewide.

Mississippi IHL Pre-service Faculty Member

VI. BRINGING SCIENCE TO THE FOREFRONT OF LITERACY INSTRUCTION

Enormous progress has been made toward understanding skilled reading, acquisition of reading skills, the brain bases of reading, the causes of developmental reading impairments and how such impairments can be treated. 'If the science is so good, why do so many people read so poorly'?

*The Science of Reading and Its Educational Implications
Mark Seidenberg, 2013*

A. Overview of this Section

EL1 and EL2 courses were mandated to ensure that pre-service candidates can implement research-based instruction in early literacy on the first day they teach. This section has three parts that support the findings and recommendations in this report. The first part gives an overview of the scientific research that informs best practices for early literacy instruction. The second part explains why the balanced literacy approach to early reading instruction as presently interpreted does not reflect best practices based on scientific research. The third part discusses why educational practitioners have not embraced the scientific research.

Readers are also directed to the Glossary provided in Section VIII of this report for definitions of terms referenced in this section and throughout this report.

B. Synthesis of Evidence-Based Best Practices in Early Literacy Instruction

Overview

As Seidenberg's quote above states, huge progress has been made toward understanding the reading process. Reading researchers have a remarkable consensus about the basic theory of how reading works and the causes of reading successes and failures (Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001; Gabrieli, 2009).

A number of studies and meta-analyses have examined the factors that lead to successful reading. The NRP (2000) famously identified five essential components of effective reading instruction, which are phonemic awareness, phonics, fluency, vocabulary, and reading comprehension. The NRP acknowledged that writing is an important component of reading instruction, but did not include an examination of the research about effective writing instruction because of time constraints and other resource limitations. Much of this section is a distillation of the research in the NRP report.

Research about different types of teaching methods was examined in John Hattie's meta-analysis (2009). Hattie's research about the effectiveness of various teaching methods is summarized in the last part of this section.

This section is by no means a complete review of relevant research about early reading instruction. It is meant to give readers some idea of the research upon which the pre-service early literacy curriculum should be founded as well as the basis of instruction in our elementary and secondary schools in Mississippi. The research in this section is also a foundation for the discussions that follow about balanced literacy and the conflict between science and education.

Phonemic Awareness

Research shows that lack of phonemic awareness is a major obstacle for many children when learning to read (Vellutino & Scanlon, 1987; Wagner & Torgesen, 1987).

The NRP concluded the following about phonemic awareness instruction:

- 1 Phonemic awareness instruction provides a benefit for all types of beginning readers: young children at risk of failure, young children progressing normally, and older, learning disabled children.
- 2 The impact of phonemic awareness instruction was evident when measuring both word recognition and reading comprehension.
- 3 Effect sizes were larger when children received focused and explicit instruction on one or two phonological awareness (PA) skills than when they were taught a combination of three or more PA skills.

Gillon (2003) examines research about the levels of phonological awareness that lead to phonemic awareness and the instructional techniques that most effectively lead to phonemic awareness that will support early reading skills.

There is a clear hierarchy of phonological awareness skills, which includes (from easiest to most difficult): syllables, onset-rime, and phonemic awareness (Gillon, 2003; Lane, H., Pullen, P., Eisele, M., & Jordan, L., 2002). Within each of these levels, certain activities range from easier to more difficult: identifying, matching, blending/segmenting, deleting/adding/substituting.

Gillon and others (Lonigan, C., Burgess, S., Anthony, J., & Barker, T., 1998) also find that a grasp of the easier levels of phonological skills appear at earlier ages than the more difficult phonemic awareness skills. This means that children learning to read, or children struggling with reading, may profit from some early attention to phonological skills not yet mastered prior to teaching phonemic awareness.

In addition to being a key factor in beginning reading acquisition, phonological awareness (especially phonemic awareness) has been shown to be a reliable predictor of reading success (Smith et al., 1995; NRP, 2000). Various early reading screening assessments have different predictive validity (Pool & Johnson, n.d.). There is also an array of diagnostic assessment tools to help teachers design effective instruction (Lane et al., 2002).

Phonics

Everyone who has heard of the reading wars knows the two sides are (1) those who think phonics instruction is not necessary (whole-language advocates) and (2) those who support the phonics instruction as a part of early reading instruction (phonics advocates). For more than 30 years science has informed us that the most effective early reading instruction does include explicit and systematic phonics instruction. Perhaps the most influential research supporting the importance of decoding instruction is the Simple View of Reading (Simple View).

The Simple View was proposed by Gough & Tunmer (1986) as a way to use research to settle the basic disagreement between whole-language proponents and proponents of explicit phonics instruction. That disagreement is whether or not the ability to decode well is essential to skilled reading or whether strong syntactic or semantic knowledge can supplant the need for strong decoding skills.

The Simple View proposes that both strong decoding skills and strong language comprehension skills are needed to be a skilled reader. For research, the Simple View (Hoover & Gough, 1990) assesses decoding as the ability to read nonsense words out of context, language comprehension as the ability to understand text that is read aloud, and reading comprehension as the ability to understand text read by the student.

The first research about the Simple View (Hoover & Gough, 1990) and numerous studies since that time (Catts, H., Adlof, S., & Weismer, S., 2006; Verhoeven & van Leeuwe, 2011; Chen & Vellutino,

1997) have validated the basic premise of the Simple View, which is that decoding is a necessary skill for reading comprehension, and that linguistic strength cannot make up for poor decoding skills. The Simple View research clearly shows that strong decoding is a requisite for strong reading comprehension. It follows that early reading instruction must ensure that children learn to decode accurately. Further, the Simple View and subsequent research (Vellutino, F., Tunmer, W., Jaccard, J., & Chen, R., 2007) validates that reading deficits need to be categorized as either decoding or linguistic deficits, with some students having both, and the specific deficits need to be addressed separately in intervention.

The Simple View and much of the validating research do not address the type of instruction most effective for teaching decoding. However the NRP reviewed several types of phonics programs and compared them against programs without an emphasis on phonics instruction. Findings from the NRP report provided strong evidence substantiating the impact of systematic phonics instruction on learning to read.

The NRP also compared three specific types of phonics instruction: (1) synthetic phonics programs (converting letters into sounds, then blending sounds to read the word), (2) larger unit programs (e.g., based on onset-rime, spelling patterns, and phonograms), and (3) other phonics programs not covered by the other two types. All three types were significantly better than little or no phonics emphasis. However, explicit, systematic, synthetic phonics instruction is more effective for low-SES students and for those with learning difficulties.

Fluency

This study examined reading comprehension and word recognition effects of corrective feedback during oral reading on the performance of readers with learning disabilities. In a repeated measures design, students with learning disabilities read under three treatment conditions: corrective feedback on every oral reading error, correction on meaning change errors only, and no feedback regardless of errors. Corrective feedback on oral reading errors had a significant positive effect on both word recognition accuracy and reading comprehension.

Pany and McCoy, 1988

The NRP (2000) defines fluency as the ability to read a text quickly, accurately, and with proper expression. Snow et al. (1998), state “Adequate progress in learning to read English (or any alphabetic language) beyond the initial level depends on sufficient practice in reading to achieve fluency with different texts.” They recommend “Because the ability to obtain meaning from print depends so strongly on the development of word recognition accuracy and reading fluency, both should be regularly assessed in the classroom, permitting timely and effective instructional response when difficulty or delay is apparent.”

There is a strong correlation between oral reading fluency, measured as rate and accuracy, and reading comprehension (although there is no evidence of causation between fluency and reading comprehension). Oral reading fluency is easily tested with a one-minute reading assessment. The validity and reliability of a one-minute fluency assessment have been well established in a body of research extending over the past 25 years (Fuchs, L., Fuchs, D., Hosp, M., & Jenkins, J., 2001).

Pikulski and Chard (2005) posit that teachers who work with beginning readers must focus significant amounts of instructional time on basic word recognition and word analysis skills because accuracy is a fundamental component of fluency.

Research also shows the value of teachers providing immediate feedback on every error, especially when children are learning to read. Immediate feedback helps children develop the critical habit of reading accurately. Pany and McCoy (1988) found that third grade children with reading disabilities who read 10% to 15% of words inaccurately during reading significantly improved their word recognition and comprehension scores when given immediate feedback on every single error. There was no effect on reading skills when students received feedback only on errors that altered the meaning of the passages.

Teachers should provide beginning readers and students struggling with accuracy daily and systematic opportunities for students to learn to read words accurately (Snow, C., Burns, M., & Griffin, P., 1998). Pushing students to "read faster" can cause some students to begin guessing, which negatively affects their reading comprehension.

The NRP (2000) found that the two most effective ways to develop fluency are by repeated oral readings or guided oral repeated reading. The studies found clear improvements in a variety of reading skills using these methods regardless of students' reading levels or age levels, and even greater gains were sometimes attributed to poor readers. The NRP found no evidence supporting the use of silent reading as a way to improve reading comprehension.

Vocabulary

As a learner begins to read, reading vocabulary encountered in texts is mapped onto the oral vocabulary the learner brings to the task. The reader learns to translate the (relatively) unfamiliar words in print into speech, with the expectation that the speech forms will be easier to comprehend. Benefits in understanding text by applying letter-sound correspondences to printed material come about only if the target word is in the learner's oral vocabulary. When the word is not in the learner's oral vocabulary, it will not be understood when it occurs in print. Vocabulary occupies an important middle ground in learning to read. Oral vocabulary is a key to learning to make the transition from oral to written forms. Reading vocabulary is crucial to the comprehension processes of a skilled reader.

National Reading Panel, 2000

In 1977 Becker observed that vocabulary knowledge was the primary factor limiting reading and academic success beyond grade 2 of students from low-SES backgrounds. The Hart and Risley study (1995) provided evidence of the huge gap in word knowledge that children of different SES groups have by the time they enter school. This study prompted an increased focus on how to minimize the vocabulary gap between high and low-SES students. (This is a particularly important study to inform our work in Mississippi, where the concentration of poverty is high.)

The connection between reading comprehension and vocabulary knowledge is strong and unequivocal (Baumann & Kame'enui, 1991; Paul & O'Rourke, 1988; Stanovich, 1986), and there is growing evidence indicating that variation in vocabulary knowledge is a causal determinant of differences in reading comprehension ability (Stanovich, 1986).

A clear area of convergence in research on vocabulary development is that students who read more have stronger vocabularies (Stanovich, 1986; Anderson & Nagy, 1991; Nagy & Anderson, 1984). Stanovich (1986) explained how the development of strong beginning reading skills facilitated reading, which facilitated vocabulary growth, which in turn facilitated further increases in reading comprehension.

Another area of convergence in reading research is that if students who have vocabulary deficits do not develop strong beginning reading skills, they will not be able to successfully engage in the extraordinary volume of reading necessary to increase their vocabularies enough to catch up with their peers. Some researchers express concern that the status quo in beginning reading instruction is inadequate to meet the reading and vocabulary needs of students who enter school with vocabulary deficits compared to their peers (Adams, 1990; Liberman & Liberman, 1990).

The NRP found that much is known about the ways vocabulary increases under highly controlled conditions, but much less is known about instruction that works in classrooms, which are not ideal, controlled settings.

A formal meta-analysis on vocabulary was not possible by the NRP because no studies met the NRP criteria for inclusion. Nonetheless, the NRP was able to make eight concise recommendations for reading instruction based on a review of implicit evidence. The essence of these recommendations includes the following five points:

1. Optimal results can only be achieved using a variety of approaches to vocabulary instruction, including direct instruction and indirect learning.
2. Repetition and multiple exposures to vocabulary items are important, as is learning words in rich contexts.
3. Vocabulary learning is effective when students are actively engaged in learning tasks.
4. Computer technology can effectively help teach vocabulary.
5. Vocabulary instruction should be adjusted if students are not fully understanding text they are reading. As opposed to focusing only on words selected for instruction, adjusted instruction would include techniques such as substitution of easy for hard vocabulary words, inclusion of redundant information, and instruction on difficult words encountered. Adjusting instruction is effective for all students, but most effective with low-achieving or at-risk students.

Text Comprehension

What learners are able to learn is dependent to a large extent on what they already know.

Reid, 1988

Comprehension is “the essence of reading” (Durkin, 1993). Reading is dependent on many levels of language skill (Vellutino et al, 2007). There are many avenues to improved reading comprehension, including the teaching of phonemic awareness, phonics, oral reading fluency, and vocabulary. As explained in the four previous sections, all these forms of instruction influence how well students comprehend text.

This section is limited to summarizing conclusions about improving reading comprehension from two publications: (1) The Report of the National Reading Panel (2000) and (2) Review of the Current Research on Comprehension Instruction: A Research Synthesis (Butler, S., Urrutia, K., Buenger, A., Hunt, M., et al., 2010) because they provide the relatively recent coverage of research relating to effective teaching of reading comprehension instruction.

Summary Information from The Report of the National Reading Panel (2000)

The NRP conclusions were limited to studies that included only students who had no evident difficulties with decoding or fluency.

The NRP looked at sixteen total instructional strategies for reading comprehension. They found that using instruction in multiple comprehension strategies, where readers and teachers interact over text to be more effective than using only one strategy.

Fifteen single-strategy categories of instruction for reading comprehension strategies were examined. Seven of these approaches to instruction appeared to have a firm scientific basis to conclude that they improve reading comprehension in normal readers in either near transfer (measured by experimenter tasks) or far transfer (measured by standardized tasks), or both. Those seven, listed in alphabetical order, are:

- Comprehension Monitoring
- Cooperative Learning
- Graphic and Semantic Organizers including Story Maps
- Question Answering
- Question Generation
- Story Structure
- Summarization

The NRP did not find firm evidence for the effectiveness for the other eight strategies examined as single-strategy instruction, although all were part of multiple-strategy instruction examined.

Three strategies—Psycholinguistics, Listening Actively, and Mnemonic—didn’t have enough studies to draw any reliable conclusions.

Three strategies—Prior Knowledge, Mental Imagery, and Curriculum—did not have enough evidence to add them to the list of single strategies with firm evidence, but may be effective when included in multiple strategy instruction.

Two strategies—Teacher Preparation and Vocabulary-Content Knowledge—have promise, although not enough studies exist to provide firm evidence of their near or far transfer effectiveness.

The NRP found that “the most promising lines of research within the reading comprehension strategies area focused on teacher preparation to teach comprehension. Teachers can be helped by intensive preparation in strategy instruction, and this preparation leads to improvement in the performance of their students.” Teacher preparation for teaching comprehension is an area of extreme importance for this study, and education professors should be aware that this research is ongoing.

Summary Information from Review of the Current Research on Comprehension Instruction: A Research Synthesis (2010)

Butler et al., (2010) used essentially the same methodology the NRP used to perform a meta-analysis of the studies about comprehension instruction published after the NRP report. The authors found 23 studies published between 2001 and 2008 that met their criteria. This part of the report briefly summarizes a few findings relevant to this study.

With regard to teacher practices, one finding from Taylor, B., Pearson, P., Peterson, D., Rodriguez, M., (2003) is of particular relevance to this study. That finding is that “. . . skills instruction in comprehension, teaching modeling, and coaching for teachers are factors in student achievement” (Butler et al., 2010). This is consistent with the NRP’s finding that teacher preparation is an area that promises improvement in student achievement.

The NRP's finding that multiple strategy instruction was most effective was further substantiated by three studies (Guthrie, J., Wigfield, A., Barbosa, P., Perencevich, K., Taboada, A., Davis, M., Scafiddi, N., & Tonks, S., 2004; Van Keer & Verhaeghe, 2005; Guthrie, J., Wigfield, A., Humenick, N., Perencevich, K., Taboado, A., & Barbosa, P., 2006). The two Guthrie studies also added evidence that stimulating, motivating tasks, such as giving students choices, hands-on activities, and interesting text are related to more strategic readers than strategy-only classrooms. The Van Keer study found that "second grade students who received explicit strategy instruction and then practiced reading with cross-age (fifth-grade) tutors made similar gains to students who practiced under direct teacher supervision. This was not true of second graders who practiced with same-age peer-tutors" (Butler et al., 2010).

Paris and Paris (2007) provided further evidence of the importance of teaching comprehension through read alouds and other oral activities for students before and as they learn to read.

Effective Teaching Methods

Hattie (2009) published a ground-breaking book with a synthesis of more than 800 meta-analyses related to achievement in school-aged students. One finding provides the effect sizes for various teaching styles and is particularly relevant for this study.

Hattie categorizes teachers as "activators" and "facilitators", as shown below. The teaching approaches on the left hand side below are those of teachers as activators, and those for facilitators are on the right side.

Effect sizes for teacher as activator and teacher as facilitator			
<i>Teacher as activator</i>	<i>d</i>	<i>Teacher as facilitator</i>	<i>d</i>
Reciprocal teaching	0.74	Simulations and gaming	0.32
Feedback	0.72	Inquiry-based teaching	0.31
Teacher students self-verbalization	0.67	Smaller class sizes	0.21
Meta-cognition strategies	0.67	Individualized instruction	0.20
Direct Instruction	0.59	Problem-based learning	0.15
Mastery learning	0.57	Different teaching for boys and girls	0.12
Goals – challenging	0.56	Web-based learning	0.09
Frequent/effects of testing	0.46	Whole language – reading	0.06
Behavioral organizers	0.41	Inductive teaching	0.06
Average activator	0.60	Average facilitator	0.17

Source: Hattie, 2009, page 243.

The data above show the strong effect sizes of Direct Instruction, which is integral to an explicit approach to teaching early literacy (especially phonics), compared to facilitated (e.g., guided, independent) approaches such as inquiry-based teaching and problem-based learning, which are often a part of the balanced literacy approach.

Especially noteworthy is the low effect size of whole-language (constructivist) approaches to reading. Professors need to understand the difference in effect sizes of various teaching approaches for two reasons. First, so that they can incorporate the most effective teaching approaches in their own courses. Second, so that they can inform their students of the most effective teaching approaches and why it is critical to use them in the elementary classroom.

C. Balanced Literacy Revisited

How much of the literacy problem in America is due to the way reading has been taught? Everyone knows about the “reading wars” of the past 30 years—the debate over “phonics” and “whole language” approaches. The 2000s saw the emergence of a compromise called “Balanced Literacy” said to incorporate the best aspects of the two approaches. “Balanced literacy” is a Treaty of Versailles solution that allowed educators to declare the increasingly troublesome “wars” over without having seriously addressed the underlying causes of the strife.

Seidenberg, 2013

Balanced Literacy Observed in Pre-Service Courses and K-3 Classrooms

The “balanced literacy” approach is a label used to characterize the reading methods taught in almost all pre-service courses we reviewed and in all K-3 classes we observed. Balanced literacy classrooms are driven by a top-down approach where the selection of text (whether basal, trade books, or leveled readers) determines which skills are taught, with wide variations in sequence. Even when phonics is taught explicitly, it is rarely systematic. Students are presented primarily with a variety of strategies for word identification, emphasizing a heavy reliance on semantic and syntactic cues (meaning-based), with much less reliance on grapho-phonemic (phonics) cues.

Definition of Balanced Literacy

Although balanced literacy has many definitions, almost all the definitions for the balanced literacy approach in the early grades have some common elements.

- All skill and strategy instruction is based on “authentic” literature, which can be either a read-aloud or a text children read themselves.
- Phonics, comprehension, and other strategies taught are based on the teacher’s perception of the students’ needs, gleaned from observation and/or informal assessment.
- Phonics is taught within mini-lessons and/or with a “word study” approach.
- The most common reading assessments are running records that use the “three-cueing” system to analyze a student’s errors and determine appropriate intervention.
- A combination of whole-group and small-group instruction is included in daily lessons, and guided reading is the basis of small-group instruction. [see Glossary for definition of guided reading in this context, as it has different interpretations in Mississippi.]

Balanced Literacy Misunderstood as a Compromise

The term “balance” when referring to reading instruction was used earliest by Chall in an effort to quell “the great debate” (Chall, 1967), and later by Adams (1990). In calling for a systematic approach to phonics, the NRP urged “integration...to create a balanced reading program”. In these publications, the term “balanced” suggests (as its origins intended) an approach to teaching reading using only the best elements of the two divergent approaches. The NRP makes it clear that this balance for early reading instruction is to teach decoding explicitly and systematically and to use read-alouds of quality literature for comprehension instruction, including development of rich vocabulary.

Balanced literacy instruction occurring in Mississippi IHLs and in Mississippi K-3 classrooms is far from what Chall, Adams, and the NRP described.

Over time the term “balanced literacy” came to be interpreted as a compromise between whole-language advocates and phonics advocates. The compromise now called balance literacy essentially allows for instruction based on the teacher’s observation of student needs. More often than not balanced literacy includes implicit phonics instruction through a word study approach, or a smattering of phonics instruction based on mistakes children make during guided reading. This is the balanced literacy philosophy and approach that is primarily taught in Mississippi IHLs and K-3 classrooms.

For advocates of the meaning-based, whole-language approach, the term “balanced” was addressed by inserting “mini-lessons” or word study for phonics instruction. However, phonics mini-lessons are generally based on either: (1) words taken from the text students are reading, or (2) words that students misread when reading text. Word study in balanced literacy instruction is “embedded phonics”, where the students discover spelling and morphological patterns essentially through word sorts using words linked to the texts being read (Bear, D., Invernizzi, M., Templeton, S., & Johnson, F., 2004).

For advocates of the code-emphasis approach the term “balanced” was addressed by reintroducing the teaching of any phonics into the curriculum where there had been none. Some balanced literacy programs have a phonics component (either in a stand-alone program or through a basal textbook) in which students are systematically introduced to phonics and they read decodable text. But universally, these programs with explicit, systematic phonics instruction also include a separate guided reading component in which students are taught to use pictures and context before they try “sounding the word out”. Therefore, during guided reading, students are reading words with phonics patterns they have not learned and practicing strategies that are not based on best practices, even if they are taught explicit and systematic phonics during one part of the program.

Our review showed that professors and K-3 schools are implementing forms of balanced literacy described above. We heard phonics instruction within balanced literacy widely described as “explicit” and “systematic”, two terms at the core of research findings about the most effective early reading instruction. Yet the instructional methods taught in IHLs and used in the K-3 setting are neither explicit nor systematic. This is due, at least in part, to pre-service textbooks and elementary grade basals that espouse balanced literacy approaches.

Synthetic Phonics Instruction Is Minimized in Balanced Reading Instruction

In synthetic phonics instruction, students are taught to convert letters into sounds and then blend the sounds to read the word. The NRP found that synthetic phonics programs are more effective than other types of phonics instruction for low-SES students and for students with learning difficulties. This is an enormously important finding for Mississippi educators because so many of our students are low-SES.

Synthetic phonics instruction is a parts-to-whole-word approach to reading instruction. Children learn to look at the smallest part of a word (the letter or grapheme). Other types of phonics methods, often promoted in balanced literacy texts, were evaluated and found by Hattie (2009) to be less effective than synthetic phonics. These methods include teaching students to look for chunks within words such as onset-rime, spelling patterns, and phonograms. These methods of phonics instruction, including analytic and analogic, are not as effective, especially for low-SES students and for those with learning difficulties.

Informal Reading Inventories (IRIs)

The primary purpose of IRIs is to provide a general reading level for students, and most IRIs do this quite well. IRIs are also useful for other purposes, including: (1) informally assessing a student's rate and accuracy (because they have multiple passages at each grade level that teachers can use); (2) informally assessing a student's reading comprehension by asking questions about passages students read with accuracy of 98% or higher; and (3) informally assessing a student's listening comprehension by reading a passage to the student and asking the question. Therefore, IRIs are a useful tool that pre-service candidates should be exposed to.

However, IRIs are not useful tools for assessing a student's phonological awareness or decoding skills with precision, and the results of an IRI should not be used to plan phonemic awareness or phonics instruction. A student's performance on an IRI can be used to determine which students need further diagnostic assessment in specific areas of reading (e.g., letter names, letter sounds, phonemic awareness, phonics at the short vowel level), but IRIs do not provide sufficient information for a teacher to design intervention instruction for a student who has specific skill gaps.

Early literacy courses need to teach appropriate uses for IRIs and include using other informal and formal assessments for diagnostic purposes. This will prepare pre-service candidates to identify reading levels when they begin teaching and to diagnose specific gaps to inform instruction. Assessment of early literacy skills presented in Mississippi's pre-service content is almost exclusively through IRIs.

The Three-Cueing System

The three-cueing system is a central part of balanced literacy programs. It is based on the premise that we use semantic, syntactic, and grapho-phonemic "cues" to "solve" words when we read. (Sometimes pragmatics are added as a fourth cue.)

Essentially, the three-cueing system places the three types of cues in a hierarchical order of importance when a reader encounters an unfamiliar word.

- Semantics (word meaning) is the first and most important cue. The range of possible words is restricted by the context, so when children come to an unfamiliar word, they are taught to use contextual cues, picture or graphic cues, or within-word cues (e.g., affixes and roots) to guess a word that fits the context.
 - *The cues are "Does that word make sense?", "What word makes sense?", "Look at the picture."*
- Syntax (language structure) is the second cue. Syntactic cues provide information about the word based on the sentence structure. Because English has restrictions on word order, when both semantics and syntax are considered, the reader can make an even more educated guess about an unfamiliar word.
 - *The cue is "Does that word sound right?" or "What word sounds right?"*
- Grapho-phonemics (letter-sound information) is the third, and least important, cue. Early readers are often taught that beginning letter sounds can enhance guessing based on semantic and syntactic cues.
 - *The cue is to look at the first letter and think of a word that would make sense, sound right, or match the picture.*

The three-cueing system also includes analyzing whether the error a student makes changes the meaning of the text or not. If the error does not change the meaning, the teacher does not correct the student.

In one textbook we reviewed, an author provides an example of a student using a syntactic clue to incorrectly read “shop” instead of “store”. The author states that it is semantically acceptable for this student to misread “shop” because the error did not affect the meaning of the text.

In essence, with the three-cueing system, errors made when reading only matter if the errors change the meaning of the text. Early reading instruction based on the three-cueing system expects children to figure out which word identification strategies work best for them, with the implication that effective strategies will be something different for each child.

The fact is all children climb the same stairs to becoming readers. Some take them two or three at a time, while others have to drag themselves along with as much help as they can get, even occasionally backing down to repeat a step again and again. In the reading process, no one skips any stairs, even if they leap over them so quickly it seems like they did. Only the pace and automaticity differ. This doesn't discount the importance of language and experience that readers bring in order to comprehend. But how can you comprehend a word before you identify it? The path to constructing meaning from text begins at the phoneme level. The preponderance of science supports this. And teachers must know the science.

*email correspondence, May 2015
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Coalition for Reading Excellence*

Miscue Analysis

Miscue analysis is based on the three-cueing system. For a miscue analysis, the teacher notes the errors (“miscues”) a student makes while reading aloud. The teacher analyzes errors the student makes (“miscue analysis”).

When conducting an IRI or running record, the teacher categorizes the miscues according to whether they are “semantic”, “syntactical” or “grapho-phonemic”. The teacher uses this analysis and other data (e.g., rate, accuracy, self-corrections) to determine the type of reading instruction needed in order to help the student improve reading skills.

Flaws in the Three-Cueing System and Miscue Analysis

The three-cueing system correctly identifies that semantics, syntax, and grapho-phonemic systems are required for reading. However, the primary flaws of the three-cueing system and miscue analysis are that they: (1) incorrectly suggest that other cueing systems can compensate for poor grapho-phonemic processing and (2) discount the evidence that the reader must accurately decode words before he/she can understand the text to achieve reading comprehension.

Strong readers decode words effortlessly and then discern meaning from their knowledge of the word and/or context. Teaching or allowing students to rely on semantic and syntactic cues rather than accurate decoding promotes guessing of words. This happens when teachers ask these widely used prompts when a student misreads a word: “Does that word make sense?” (semantic cue); “Does that word sound right?” (syntactic cue).

Whenever a student misreads a word, the student should be directed to look at the word or part of the word that was misread. For example, in the sentence “The duck sat on the grass” a student might read “sit” instead of “sat” or “glass” instead of “grass”.

The problem in the above example is that the student did not decode the word accurately, regardless of whether the miscue is semantic or syntactic. This means that the grapho-phonemic cues are minimized in favor of semantic and syntactic cues. This student should be directed to give attention to all letters in the word missed, generally by sounding the word out, no matter what miscue analysis determines is the reason for the error. This student should not be asked to think about whether the word he/she read makes sense in the sentence or whether it sounds right (or even to look at the picture in the case of “grass” read as “glass”, which is a popular, but faulty strategy that teachers use with beginning readers).

Accurate and efficient decoding does not require attention to meaning, as has been shown by numerous studies on the comparison between struggling readers and strong readers decoding unfamiliar or nonsense words. This should not be interpreted as a failure to acknowledge that meaning is the ultimate goal of reading. Rather, it underscores the point that struggling readers are most often poor decoders and strong readers are most often strong decoders in these comparisons.

For early readers, encouraging guessing by using semantic and syntactic cues, rather than explicitly teaching accurate decoding of the word, sets too many students up to become struggling readers as text becomes more difficult. The scientific research overwhelmingly supports teaching explicit, systematic, synthetic phonics to ensure accurate and fluent reading that leads to reading comprehension.

If children are to be reading proficiently by third grade, they need to be strong decoders, and this requires abandoning use of the three-cueing system to guide instruction for beginning readers and for struggling readers with decoding deficits.

Mini-Lessons

We do phonics in short mini-lessons with our guided reading. We use the text to listen for the sounds in the sentence.

2015 student intern

Mini-lessons are short (5-10 minutes) lessons that, for phonics, teach phonics concepts, skills, and generalizations. Phonics mini-lessons might be planned in advance or they might take advantage of “teachable moments” that occur when students are reading. One clear aspect of mini-lessons is that students practice the concept or skill taught while reading text or with words from text.

Although mini-lessons are often described in balanced literacy textbooks as being systematic or explicit, they are almost never used for systematic instruction. When phonics skills and concepts are taught through mini-lessons tied to text, skills are not taught in a specific and systematic (simplest to complex) order, even with a graduated sequence of leveled texts. Rather, mini-lessons are mostly determined based on gaps the teacher observes or are lessons planned based on words selected from the text rather than on a planned, logical sequence of phonics instruction.

Comprehension Strategies within the Context of Balanced Literacy

The NRP supports direct instruction of comprehension strategies and also suggests that teacher training in best practices for direct instruction of these strategies enhances reading comprehension. Balanced literacy textbooks reviewed for this study generally include a number of specific

comprehension strategies (e.g., QAR/Question-Answer Relationships, DRTA/Directed Reading Thinking Activity, Think Aloud, Reciprocal Teaching) that are supported by the NRP. Balanced literacy texts also encourage direct teaching, modeling, and practice of comprehension strategies. Some of the courses appropriately included activities where pre-service candidates applied direct teaching, modeling, and practice of research-supported activities. This helps to explain the closer alignment of content found in EL2 relative to comprehension than with the other components.

Guided Reading and Leveled Books

Guided reading, like balanced literacy, has many definitions. Guided reading is primarily a way for teachers to help small groups understand texts, and the texts used are leveled books. Leveled books are leveled with criteria such as:

- Length of words in the book
- Number of different words in the book
- Size and font and layout of the book
- Difficulty of vocabulary and concepts
- Predictability of words
- Complexity of language and syntax

When these criteria are applied to lower leveled books for emergent, beginning, or struggling readers, the words are easier for students with decoding weaknesses to guess, as opposed to sounding out the word. In guided reading, the teacher uses prompts based on the cueing system to help students figure out unfamiliar words. These prompts include “Look at the picture” and “What word with the same first sound makes sense?” These strategies encourage students to guess at words as opposed to first decoding the word, and then applying context to determine whether the word decoded makes sense.

Guided reading employs another practice that develops the habit of relying on content before decoding. When a student makes a reading error that does not change the text’s meaning, the teacher does not correct the student’s decoding error.

Other instructional strategies common to guided reading may fit criteria for effective comprehension instruction. These include questioning for understanding while reading and supporting students with background information prior to reading the text. **But the guided reading strategies for word attack do not meet the scientific evidence for best practices in reading instruction.**

Contradictory Information from Balanced Literacy Texts

Thus, to the extent that meaning-oriented programs include instruction in phonic principles, there is little opportunity to practice applying these principles in connected reading. On the other hand, just because a program is described as a phonics program, one cannot assume that there will be a good match between phonic generalizations taught and opportunity to exercise the generalization in text.

Foorman, 1995

Professors stated their support of explicit, systematic early reading instruction while also teaching activities that are more meaning or whole-language based. However, the most obvious examples of a contradiction of instructional approaches came from our textbook reviews. This is most likely

because we observed only one or two classes that professors taught within a semester, but we reviewed all textbook assignments for each course.

Most textbooks for EL1 and EL2 courses we reviewed stated they teach a balanced literacy approach. On the one hand, these textbooks include statements that phonics should be taught explicitly and systematically, and many include an appropriate and logical sequence for teaching phonics. They all acknowledge the importance of research and the work of the NRP.

On the other hand, these textbooks all present early literacy instructional strategies that are not backed by research. Examples from various textbooks include:

- The cueing system, and instructional strategies that include teaching students to rely on pictures and contextual clues to “solve” unfamiliar words
- Teaching phonics through mini-lessons that use words from “authentic” books used during language arts instruction
- Whole-word-to-parts instruction and activities (also called “authentic instruction and activities” or “analytic phonics”)
- Guided reading, with its emphasis on leveled books, mini-lessons, and the cueing system as the basis for helping struggling readers

Research is clear that the most effective early reading instruction is explicit and systematic phonemic awareness and early phonics instruction and separate vocabulary and comprehension instruction as the teacher reads quality literature aloud to students. Simply calling balanced literacy texts “research-based” and describing their approach with the words “explicit” and “systematic” does not mean that the content or recommended instruction are actually the best research-based practices.

Indeed, all balanced literacy textbooks we reviewed clearly emphasize fully integrated early reading instruction based on authentic literature and the cueing system rather than more explicit research-based instruction. We also found that newer versions of textbooks reflected only modest updates in the research.

D. The Conflict between Science and Practitioners

Educational practice has suffered greatly because its dominant model for resolving or adjudicating disputes has been more political (with its corresponding factions and interest groups) than scientific. The field’s failure to ground practice in the attitudes and values of science has made educators susceptible to the “authority syndrome” as well as fads and gimmicks that ignore evidence-based practice.

Stanovich and Stanovich, 2003

The Conflict about Early Reading Instruction Described

The constructivist theory prevalent in education today has underpinnings promulgated in the U.S. by John Dewey and his followers as early as the late 1800s. This constructivist theory, as described by Piaget in the mid-20th century, posits that readers construct their own meaning in the learning process through experience, and the teacher serves as facilitator of this process.

In constructivist approaches, early reading education relies on the assumption that children learn to read the same way they learn their native spoken language, which is a natural process occurring through experience, not instruction. Balanced literacy incorporates that belief by putting “authentic” or “real” reading experiences at the center of virtually all early reading instruction, including phonics.

Those who advocate for explicit, systematic phonics instruction base this position on the science that disproves the notion that children learn to read the same way they learn to speak. Therefore, phonics advocates use a planned sequence for explicitly and systematically teaching phonological awareness (including phonemic awareness), letter names and sounds, and phonics concepts. Children practice early reading with decodable words and passages. During early decoding instruction and practice, the focus is as much on reading accurately as it is on understanding what is read.

The Conflict Resolved

Certainly, constructivist theory and balanced literacy practices such as guided reading and mini-lessons have a place in the broader context of a progressive education and in domains of literacy. Practices such as developing a deep comprehension of text, building rich vocabularies with text exposure, and writing well-constructed text can benefit from constructivist learning, as well as direct and explicit instruction.

Nonetheless, the science is clear. Decoding words accurately and effortlessly is a necessary precursor to constructing meaning while reading. Phonemic awareness and phonics should be taught directly, explicitly, and systematically in order for beginning readers to decode accurately and effortlessly.

The research further tells us that children do not learn to read as easily or in the same way they learn to speak. Whereas, speaking is a natural process, reading is not a natural process. Finally, there is strong evidence that synthetic phonics instruction is significantly more effective for low-SES students than other approaches to phonics instruction.

Two Cultures at Odds in Education

... one sees that science and education occupy different territory in the intellectual world (literally so on many university campuses). The result is that people who are studying the same thing—how children learn to read, for example—can nonetheless have little contact. The cultures of education and science are radically different: they have different goals and values, ways of training new practitioners, criteria for evaluating progress. The two cultures also communicate their research at separate conferences sponsored by parallel professional organizations attended by different audiences, and publish their work in different journals. There are publishers that target one audience or the other. These cross-cultural differences, like many others, are difficult to bridge.

Seidenberg, 2013

The conflicts between scientific evidence and educational practice continue today. Beck (1996) speculates that the reason these conflicts continue is due to the power of personal observation. Whole language and balanced literacy advocates notice the fact that some, and perhaps many, children—especially those from print-rich environments—do not appear to need more than a few things pointed out when learning to read, and maybe some questions answered as they engage in what are considered “authentic literacy acts.”

Beck also notes that proponents of the importance of decoding skill instruction are motivated by personal observation as well. These educators observe that some, and perhaps many, children do not appear to figure out the alphabetic principle and how to decode without direct and systematic instruction.

Beck points out that the two views are not mutually exclusive, and that one view does not negate the other. She states that this is just the type of situation for applying the scientific method to obtain triangulated information across differing observations by different observers.

Seidenberg (2013) explains that conflicting attitudes from science and educational practitioners are at the heart of controversies about reading instruction. The research evidence is that programs with explicit, systematic phonics instruction result in better reading comprehension than programs without phonics or with embedded phonics. This contradicts previous basic assumptions that learning to read is like acquiring a first language.

Seidenberg further explains that “Many educators are dismissive of attempts to examine reading from a scientific perspective, which is seen as sterile and reductive.” He says that educators believe that scientific studies “cannot capture the character of the learning moment, or the chemistry of a successful classroom (Coles, 2000).” This view was evidenced by the overwhelming rejection of the NRP report by professors of education and other educators because the criteria “excluded studies that educators value: mainly, observational, quasi-ethnographic studies of individual schools, teachers, classrooms, and children that do not attempt to conform to basic principles of experimental design or data analysis” (see, e.g., Barton & Hamilton, 2000; Rasinski, T., Yildirim, K., & Nageldinger, J., 2011).

The Picture in Mississippi

Cognitive science confirms that reading is not a natural process and tips the scale of the reading war debates in favor of phonics-based instruction. The brain may be wired for language, but it must be rewired for reading (Shaywitz, 2003; Wolf, 2007; Dehaene, 2009). In other words, to understand a written word, one must first decode it. This is in opposition to Goodman’s “psycholinguistic guessing game” (Goodman, 1967) in which students use context to guess the word and only confirm the guess using “grapho-phonemic cues” when necessary.

Teachers’ skill sets must include a wide repertoire for teaching and assessing all five components of early reading instruction explicitly, regardless of curriculum, materials, pacing guide, classroom composition, or geographic context. It is imperative that teacher preparation for early literacy instruction provides sufficient attention and practice to research-based instruction so teachers are ready to effectively teach children at all levels to read on day one.

Fragile third grade reading scores and persistently low NAEP rankings in Mississippi should push us to examine whether our ideologies are working. Even though cognitive science research about reading is complex, professors of early reading instruction need to understand this research. They also need to incorporate the research-based practices into the educational methodologies and approaches they teach at the pre-service level, specifically in EL1 and EL2.

On its face, it seems blasphemous to reject something called “balanced”. Yet we must look past this familiar but deceptive approach to what the science is clearly telling us. If Mississippi is to provide the most effective early reading instruction for its children, the notion of “balanced literacy” has to change.

Children must be taught directly and explicitly how to decode words based on spelling patterns. We must stop teaching children to rely on the “psycholinguistic guessing game” theory that underlies the current way early reading is taught. This change must begin at the pre-service level so that new teachers arrive in the classroom equipped to teach all children to read. In doing so, we will produce many more proficient readers by the end of third grade and give them the foundation critical for achieving and sustaining academic success.

VII. THREE BIG IDEAS

Mississippi is a small state with only 15 traditional-route teacher preparation programs. MDE is fully engaged in K-3 literacy efforts and the Legislature appears keen to ensure that the literacy challenges that keep us at the bottom of all reading measures are conquered. The interrelated tasks among the various players are complex, but the road map for IHLs is clearly marked. All of us entrusted with preparing Mississippi's teachers of literacy are urged to consider Three Big Ideas.

Big Idea #1 ADOPT RESEARCH-BASED PRACTICES AT EVERY LEVEL OF READING EDUCATION

- a) Establish research-based principles and practices in core reading courses at all 15 IHLs.
- b) Focus pre-service course core content on explicit, systematic instruction for all five essential components, plus writing, rather than on the balanced literacy approach which is more implicit and less systematic.
- c) Expand and apply knowledge of research-based practices so that teacher preparation instructors, literacy coaches, and K-3 classroom teachers all incorporate research-based approaches to instruction.
- d) Develop and apply stringent standards for state accreditation of teacher preparation programs to require application of research-based methods in the 15-hour reading sequence.

Big Idea #2 BRING CONSISTENCY TO EARLY-LITERACY COURSE CONTENT AND DELIVERY IN ALL TEACHER PREPARATION PROGRAMS

- a) At the pre-service level, teach all essential components of literacy--incorporating writing, assessment, and intervention—using established research-based methods.
- b) Develop pre-service core content for EL1 and EL2 course schedules, including a common set of required readings.
- c) Develop pre-service textbook guidelines and adoption policies that insure research-based content.
- d) Incorporate regular and frequent modeling of effective practices in undergraduate courses, including using a core of approved video demonstrations showing research-based instruction.
- e) Develop a statewide network of “laboratory classrooms” in the K-3 system with skilled, paid mentor teachers for fieldwork and practice teaching.
- f) Develop a core set of assignments for fieldwork that ensures pre-service candidates practice teaching and assessing all early literacy skills.
- g) Add demonstration of teacher proficiencies in literacy instruction as a requirement for graduation from an elementary education program.

Big Idea #3 DIRECTLY INVOLVE EDUCATORS IN SHAPING POLICY AND PRACTICE

- a) Amend LBPA to increase intentional planning and collaboration among literacy education policymakers and practitioners by expanding the State Reading Panel to include representation from IHL Deans, early-literacy instructors, literacy coaches, mentor teachers, partner district principals, and other literacy experts. Expanded functions to include:
 - o Designing a credentialing process for instructors of EL1 and EL2, with all instructors gaining early literacy credential by 2020.
 - o Developing a set of Evidenced-based Literacy Instruction Principles to guide all pre-service teacher training, in-service professional development, and K-3 coaching and instruction in Mississippi.
 - o Organizing and monitoring the execution of Big Idea #2.
 - o Proactively advising the legislature and the MDE on all policy and other issues related to early literacy.
- b) Revise the State's program accreditation process to ensure consistent application of high standards to pre-service elementary education programs that will support full implementation of evidence-based practices in early-literacy instruction.

VIII. GLOSSARY

Note: Items with an asterisk () are not in the Statewide Report but may appear in one or more of the individual institutional reports.*

Alphabetics – The science dealing with the representation of spoken sounds with letters.

***Analogical approach** – An approach to phonics instruction in which students learn to recognize a new word because it shares a spelling pattern with a known word (e.g., I can read the unfamiliar word 'bike' because I recognize 'ike' from the known word 'like').

***Analytical phonics approach** – An approach to teaching decoding. Students learn to analyze letter-sound relations by paying attention to the whole word first, then the initial and final letters, and context clues. Students are expected to deduce spelling patterns after repeated exposure to whole words.

Authentic text – Text written for purposes other than language/reading instruction that has not been altered (e.g., controlled for vocabulary, rewritten to achieve a specific readability level). Also sometimes called "real text."

Background knowledge (also known as domain and topic knowledge) – Knowledge students have learned formally in school or other learning situations or informally, through experience, reading, etc. Background knowledge is one of the cognitive capacities that readers bring to the task of reading.

Balanced literacy – An approach to literacy instruction that has many definitions. Most definitions include these elements:

- Students apply skills and strategies using authentic literature, or words from authentic literature, that can be either a read-aloud, or a text they read themselves.
- Instruction is adjusted based on the teacher's perception of the students' needs, which may be based on observation or informal assessment.
- A combination of whole-group and small-group instruction is included in daily lessons, and small group instruction is generally guided reading with leveled readers.
- Phonics is taught in mini-lessons and/or with a "word study" approach.

Basal textbooks – A set of texts written specifically as a core reading program. Stories, expository passages, and poems are chosen to illustrate and develop specific skills, which are taught in a pre-determined sequence. Teacher's editions provide lesson plans. Many current basal programs include student workbooks or on-line activities.

Bottom-up approach – see **Synthetic phonics**

Comprehension instruction – Generally refers to reading or text comprehension instruction. Reading comprehension is the ability to derive accurate and reasonable meaning from written material and to extend that meaning to other texts. Reading or text comprehension is the final goal of reading instruction. The Simple View of Reading tells us that both strong decoding skills (word recognition) and strong linguistic (language) comprehension abilities are necessary for reading comprehension.

Constructivism – A philosophical approach to learning and teaching. Constructivists believe students create their own knowledge and understanding from what they encounter and by reflecting on their own experiences. The constructivist philosophy of reading instruction favors a holistic, **whole language** approach to reading.

Cueing system – see **Three-cueing system**.

Curriculum-based Measurement (CBM) – A method of monitoring student progress through direct and continuous assessment of academic skills. CBMs are standardized, timed assessments that assess student performance against criterion-referenced benchmarks and national norms. CBMs are most often used to measure basic skills in reading and mathematics.

Decoding – The process of translating print into speech. Beginning readers decode words by matching a letter or combination of letters to their sounds and blending the sounds into words. Efficient decoding is based on rapidly and automatically recognizing spelling patterns for words and syllables.

Decodable text – Text that is written only with words a student has been explicitly taught to decode and irregularly spelled high frequency that have been specifically taught.

DIBELS (Dynamic Indicators of Early Literacy Skills) – A set of nationally normed curriculum-based assessments used in grades K-6 for benchmark and progress monitoring assessment. DIBELS is available for free download from <https://dibels.uoregon.edu>.

Direct instruction – An instructional approach including planned, teacher-directed instruction of new materials in clearly explained small steps with guided practice and systematic feedback and corrections from the teacher.

Embedded phonics instruction – Teaching students to analyze letter-sound relations using words from texts students are reading. Embedded phonics lessons are often mini-lessons based on either words the teacher selects from the text or words the students have missed while reading.

***Emergent literacy** – A term used to describe the stage of development during which children acquire the foundational knowledge about language and print required for learning to read and write. For most children, the emergent literacy stage begins at birth and continues through the preschool years.

Evidence-based – Refers to practices that have been shown to be successful in improving reading achievement. The success of these practices is demonstrated in two ways: by research-study data collected according to rigorous design, and by consensus among expert practitioners who monitor outcomes as part of their practice. These results—whether scientific data or expert consensus—must be valid and reliable and come from a variety of sources (Reading Excellence Act, 1999).

Explicit, systematic, sequential instruction – Instruction that directly teaches what the student is expected to know and will be assessed on, builds from the simple to the complex, and is cumulative. In explicit, systematic, sequential instruction, what is taught follows a planned and ordered progress in a definite and highly organized manner leaving nothing to implication. Explicit instruction may be applied to any instruction, not just reading.

Four-part Processing Model – A model from an artificial intelligence project by Seidenberg & McClelland (1989) that describes four distinct, interactive, and necessary brain functions (processing units) activated during the reading process. The four processors are: phonology (sound/speech), orthography (symbols/print), meaning (word/semantic), and context (schema/structure/syntax). When compared with the three-cueing system, the research behind the four part processing model emphasizes the importance of each function in the reading process and demonstrates that one stronger function cannot compensate for a weaker one. The Four-part Processing Model is taught in LETRS professional development.

Five essential components of reading – In 2000, the report of the National Reading Panel’s meta-analysis of the literature on reading instruction focused on 5 components of reading that were deemed essential for the most effective reading programs: **phonemic awareness, phonics, fluency, vocabulary, and comprehension**. Sometimes referred to as the “five elements of reading instruction”.

Fluency – The ability to read with accuracy and reasonable speed. Oral reading fluency is the ability to read aloud with accuracy, reasonable speed, and appropriate expression (prosody).

Formal assessment – Standardized measures that have data supporting the conclusions made from the test. Scores such as percentiles, stanines, or standard scores are most commonly from this type of assessment.

Four-cueing system – See **Three-Cueing system**

Guided reading – A method of literacy instruction that is open to many interpretations. In their review of the history of the term, Ford and Opitz (2008) state: "Regardless of decade or author, all agree that guided reading is planned, intentional, focused instruction where the teacher helps students, usually in small group settings, learn more about the reading process." Small groups for guided reading generally have students who have been assessed at similar reading levels.

***Heuristic** – A method or process that enables a person to discover or learn something for themselves. The RAND study called “Reading for Understanding: Toward an R&D Program in Reading Comprehension” includes a heuristic for thinking about reading.

Informal assessment – Assessment used to evaluate an individual student's skills, performance, and progress. Informal assessment does not compare a student against a statistical norm. There are many types of informal assessments, including teacher observation, running records, end-of-unit tests, pop quizzes, etc.

Informal reading inventory (IRI) – An individually administered informal oral reading assessment used to determine a student’s independent, instructional, and frustrational reading levels. There are many informal reading inventories available, including the Analytical Reading Inventory (Woods & Moe), the Comprehensive Reading Inventory (Cooter, Flynt & Cooter), and the Qualitative Reading Inventory (Caldweek & Leslie) (which are texts listed for courses observed in this study).

Implicit phonics – An approach to teaching phonics where students discover phonics patterns from known words during planned literacy activities or while reading “authentic” text. Word study with an emphasis on word sorts is an example of implicit phonics instruction.

Jigsaw – A method for addressing written material where individuals or groups of individuals within a class are responsible for reading a subset of material (e.g., chapter of a textbook, section of an article) and summarizing its content for the benefit of the class.

LETRS (Language Essentials for Teachers of Reading and Spelling) – A professional development series of books, workshops, and on-line courses about reading, writing, spelling, and other language-related skills for K-12 teachers, administrators, and paraprofessionals. LETRS is the professional development program adopted by the Mississippi Department of Education as part of the Literacy-based Promotion Act.

Leveled text – Text that has been assigned a reading level based on various factors (e.g., vocabulary, number of different words, support from context, support from pictures, page layout). Leveled texts are used to help students select books that are within their reading ability and to select books for small-group guided reading instruction with students at approximately the same level.

Language comprehension – Understanding and taking meaning from oral or written language. In the Simple View of Reading, language comprehension is measured with a listening comprehension assessment. Language comprehension is sometimes referred to as “linguistic comprehension”.

***Language-experience activity** – An activity during which a child tells about an experience (or a group of children each contribute a sentence about a shared experience), and the teacher prints exactly what the child says. The teacher reads the printed passage aloud one or more times while pointing to each word as it is read. Next, the children and the teacher read in unison as the teacher points to each word. This activity helps children understand that print represents speech, learn that reading and writing move from left to right and top to bottom, and think about experiences that they can describe.

***"Look-say" approach** – See **whole word approach**

Mini-lessons – Mini-lessons are short lessons (5-15 minutes) that focus on teaching students a procedure, behavior, or strategy. The teacher bases the mini-lesson topic on the observed or assessed needs of the students. A mini-lesson may include an explanation about why the lesson is important for reading. During a mini-lesson, the teacher describes and models what is being taught. Student practice follows the modeling. Mini-lessons may be planned or extemporaneous, and they can be taught individually, in a small group, or to a whole class. Often the mini-lesson is related to a larger lesson to follow.

Miscue analysis – An analytical procedure for assessing student's reading comprehension based on samples of oral reading. Miscue analysis is predicated on the belief that students' mistakes when reading are not random errors but, actually their attempt to make sense of the text with their experiences and language skills. The term ‘miscue’ was coined by Kenneth Goodman (1967) to use instead of “errors” when students misread a word because the term “miscue” avoids value implications. In Goodman’s article, he explains that when a student makes a miscue that affects the meaning of the passage, the teacher should correct that miscue. However, if the miscue does not affect the meaning of the passage, the teacher should not correct the mistake.

Modeling – A part of instruction where the teacher demonstrates a skill or task or verbalizes thought processes while reading or writing.

Oral language – A spoken code made up of rules that include what words mean, how to put them together, and what words are best for different situations. The development of oral language is a critical foundation for reading comprehension. Oral language activities and phonological awareness activities are sometimes confused. Oral language activities build vocabulary and the ability to use words appropriately. On the other hand, phonological awareness activities (which include phonemic awareness activities) build awareness of word parts such as syllables, onset and rime, and phonemes.

Phonemic awareness – the ability to identify, distinguish, and manipulate the individual sounds (phonemes) in a spoken word without reference to letters. Phonemic awareness is the highest level of **phonological awareness**, which is the awareness of all types of speech sounds (e.g., syllable, onset-rime, phoneme). All phonemic awareness activities are oral and do not involve print.

Phonological awareness – The conscious awareness of all levels of speech sounds in words, including syllables, onset-rime, and phonemes. Phonological awareness activities including identifying, blending, segmenting, and manipulating syllables, onset-rime, and phonemes in words. Phonemic awareness is a subcategory of phonological awareness. All phonological awareness activities are oral and do not involve print.

Phonics instruction – A way of teaching reading that stresses the acquisition of letter sound correspondences and their use in reading and spelling. The primary focus of early phonics instruction is to help beginning readers understand how letters are linked to sounds (phonemes) to form letter-sound correspondences and spelling patterns, and to help beginning readers learn to apply this knowledge in their reading.

***Predictable text** – A text that contains words or phrases that are repeated over and over again, often with words that aren't repeated having a close alignment with pictures or some aspect of the text, such as rhyming words.

***Readability level** – A level of textual difficulty based on objective measurements of factors such as the average number of words per sentence and the average number of syllables per word.

Research-based – Founded on an accumulation of evidence obtained from accepted scientific research.

Response to Intervention – (commonly abbreviated RtI or RTI). An approach to the early identification and support of students with learning and behavior needs. RtI mandates the use of research-based academic and/or behavioral interventions. RtI includes universal screening of all children and generally includes three tiers of instruction. Tier 1 is high quality, scientifically based classroom instruction. Tier 2 is targeted intervention for students not making adequate progress in the regular classroom. Tier 3 is intensive, targeted instruction for students not making adequate progress in Tier 2. Students who do not achieve the desired level of progress in response to Tier 3 intervention are referred for a comprehensive evaluation and considered for eligibility for special education services. Multi-tiered System of Support (MTSS) is a term related to RtI. Sometimes the terms are used interchangeably. However, the distinction between the two is that MTSS emphasizes a system-wide responsibility for student support, at all grade levels and throughout the district or state, whereas RtI can be implemented at any level (e.g., classroom, grade, school, district).

Running record – an informal assessment during which a teacher listens to a student read a text aloud and records errors made while reading and also notes other reading behaviors. The text used for the running record should be what the teacher considers to be the student's reading level. There is a set code for recording errors by type (e.g., substitutions, omissions, insertions, self-corrections). The student's words correct per minute and accuracy rates are calculated. Errors are then categorized, based on the cueing system, as semantic, syntactic, or grapho-phonemic. Running records are used to inform instruction and to move students up or down in their reading levels.

Sight word – A frequently occurring decodable word that can be read without *conscious* use of decoding skills or a frequently occurring non-decodable word that can be recognized by memorization.

STAR Tests – Proprietary computer-adaptive tests used in grades PreK-12 to assess skills in the areas of early literacy, reading, and math and aligned with MCCRS. STAR Early Literacy assesses literacy and numeracy skills in 8 domains, including language, foundational skills, and numbers and operations. STAR Reading assesses skills across eleven domains, including language, foundational skills, and reading literature and informational text. STAR Math assesses skills across 11 domains, including operations and algebraic thinking and the number system. Computer-adaptive tests similar to STAR and developed by the same company (Renaissance Learning) are used for Mississippi's Kindergarten readiness and third grade summative assessments (M-KAS²/MS K-3).

Synthetic phonics (also known as **bottom-up approach**) – An approach to teaching decoding. Instruction starts with teaching the phonemes (individual sounds) and graphemes (spellings of

individual sounds) in isolation. Next, students are taught to sound out words by blending letter sounds (synthesizing) to pronounce the written word. One-to-one spellings are mastered first (e.g., cat spells /k/ /ă/ /t/) and more complex spellings later (e.g., bleach spells /b/ /l/ /ē/ /ch/).

***Text set** – A collection of resource materials with different reading levels, genres, and media organized around a specific topic or theme.

Three-cueing system – A model that includes three strategies, or cues, readers use to “solve” unfamiliar words in text: semantic, syntactic, and grapho-phonemic. Some cueing systems include a fourth cue, pragmatics (use of language in social context).

Top-down approach – See **Whole language approach**

Trade book – Published literature, not written for the purpose of specific instruction in reading skills.

Universal screener - Quick, low-cost, repeatable tests of age-appropriate skills to all students. Schools typically administer universal screeners to all students three times a year. These assessments give educators and administrators two important pieces of information. First, they provide evidence to help assess how well the core curriculum and instruction are working in the school. Second, universal screening identifies those students who may not be making expected progress and who may need additional diagnostic assessment and/or intervention. Universal screening is part of the **Response to Intervention** process. **Curriculum-based measurements** are popular universal screeners.

Vocabulary instruction – Instruction about the meanings of words. There are two types of vocabulary to be considered during instruction: oral and print. Oral vocabulary includes listening vocabulary (words we understand when others speak) and speaking vocabulary (words we use and understand when speaking to others). Print vocabulary includes reading vocabulary (words we understand in print) and writing vocabulary (words we understand and use when writing.)

Whole language approach (also known as **top-down approach**) – A holistic approach to reading instruction. The focus of all reading instruction, including early reading instruction, is on 'making meaning'. Accurate word reading is not considered important if a word can be discerned using context and the reader's interpretation of the word does not impair comprehension of the text. The whole language approach relies on the constructivist theory for how learning occurs (Hattie, 2009).

Whole word approach (also called the “**look-say**” approach) – An approach to early reading instruction. Children are taught to read words as whole units. In early reading instruction, students learn whole words through exposure to texts in which topics are familiar, words are repeated, and illustrations support meaning. If phonics is taught, it is based on discovering and relating phonics principles from known sight words.

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X. APPENDICES

- A. Initial prototype for EL1 and EL2 course syllabi generated by Higher Education Literacy Council in 2003
- B. Focus Group Interview Questions
- C. Faculty Interview Questions
- D. Protocol for K-3 Observations
- E. Summary of Internal Guidelines Used by Study Team: A Crosswalk of Standards