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A CORRELATIONAL STUDY BETWEEN LEARNING LINKS AND READ 180 USING  
METAMETRICS LEXILE MEASURES IN A COUNTY IN SOUTHEASTERN UNITED STATES

Patsy Ann Cheatham



A Correlational Study Between Learning Links and Read 180 Using MetaMetrics Lexile  
Measures in a County in Southeastern United States

A Field Study

Presented to

The College of Graduate Studies

Austin Peay State University

In Partial Fulfillment

Of the Requirements for the Degree

Education Specialist

Patsy Ann Cheatham

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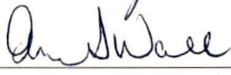
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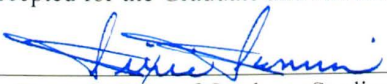
We are submitting a field study written by Patsy Ann Cheatham entitled “A Correlational Study Between Learning Links and Read 180 Using MetaMetrics Lexile Measures in a County in Southeastern United States.” We have examined the final copy of this field study for form and content. We recommend that it be accepted in partial fulfillment of the requirements for the degree of Education Specialist.

  
Research/Committee Advisor/Chair

  
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## Dedication

This field study is dedicated to my family. Each of my three children has contributed to my success. My oldest daughter, Amy Vaughn, opened the door of academic possibility for me in 2001 when she decided to go back to college to finish her degree. We studied together, attended classes together, and graduated with our Associate of Science, Bachelor of Science, and Master of Art in Education together. My son, Scott Cheatham, has been a source of comfort and a sounding board when I needed one. My youngest daughter, Alice Cheatham, has endured my study and work habits, and packaged meals for the last twelve years while I attended college to reach this degree. She has given me focus and strength when I had little left. My sister, Judy Woodall, has always believed that I had the ability to attend college and be successful. Each of these people has supported me in more ways than I can mention and I am grateful for their love. This field study is also dedicated to all of my grandchildren. They are all loved more than they know. My dream is that one day they each find their own passion and pursue it. Lastly, this field study is dedicated to those I lost along the way. My father, Rentford Wims, shined my shoes every evening when I was a little girl in elementary school and loved me the way all little girls should be loved by their father. I also lost my best friend from the time we met in fourth grade, Joan Ray. She loved me as a sister would as we traveled life's journeys. I miss them and my mother, Hazel Wims, who passed away forty years ago. She believed that women should be their own person and self-reliant. Their love and belief in me has given me the strength and ability to put aside difficulties and persevere.

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## ABSTRACT

PATSY ANN CHEATHAM. A Correlational Study Between Learning Links and Read 180 Using MetaMetrics Lexile Measures in a County in Southeastern United States  
(Under the direction of DR. DONALD LUCK.)

The purpose of this study was to determine if there was a correlation between the Lexile scores of the Read 180 and Learning Links assessments. Read 180's Response to Intervention program utilizes the areas identified as lending the most success to students identified as two or more years behind their grade. Read 180 Lexile scores are used to independently move students through the program or exit the program. Learning Links assessments, administered twice a year, identify students who may not be failing but have an unseen deficit that should be supported before the student reaches the failing stage. Learning Links scores can be used as a predictor of the possible success of a student on the Tennessee Comprehensive Assessment Program (TCAP) assessments.

Methods used for this field study included acquiring approval from the participating school system to conduct the field study and Austin Peay State University Institutional Review Board approval. Upon approval the archival data was gathered and all identifiable material was removed by an authorized agent of the district.

Questions addressed in this field study were if there was a correlation between the Lexile scores of Read 180 and Learning Links assessments overall then based on gender, socio-economic status, and ethnicity. The results showed that there was a statistically significant correlation for all four questions of the field study.



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## **CHAPTER I**

### **INTRODUCTION**

The condition of education in American schools is a great concern for educators and policy-makers. This concern is the foundation of school reform in the United States. The No Child Left Behind Act of 2001 signed January 8, 2002 by President George W. Bush mandated that “all students will meet or exceed the proficient level on the academic assessments that applies to each group of students described in subparagraph (C) (v) (U.S. Department of Education, 2002).” Siggers (2008) also reported that reading instruction should be revitalized to “address students’ lack of background knowledge and limited exposure to written and oral language” (p. 2). Reading fluency, vocabulary knowledge, and comprehension skills are critical elements for reading programs to be effective (Siggers, 2008).

Scholastic, Inc. Read 180 is a comprehensive system of curriculum, instruction, assessment, and professional development that caters to students who function two or more years below reading grade-level (Scholastic, Inc., 2011). Read 180 is geared for ongoing diagnostic and formative assessment that assesses student performance and fluency in reading, vocabulary, and spelling in addition to a summative assessment on comprehension. The adaptive technology supports individualized instruction for students and provides data for differentiation to teachers (Scholastic, Inc., 2011). Read 180 is measured using a Lexile scoring system. Lexiles measure the reading level of students from the standpoint of reading capability instead of grade level. The measures range from 200L for beginners or struggling readers to 1700L for advanced or avid readers (The Lexile® Framework for Reading, 2012)

A+ Learning Link Assessments are administered to students twice per year for reading and math and can be used as a predictor of how well students will perform on standardized tests (A+ Learning Link, 2012). Learning Links assessments are scored using the Lexile® Framework for Reading scoring system (The Lexile® Framework for Reading, 2012). The Tennessee Comprehensive Assessment Program (TCAP) Achievement Test is administered every spring to students in grades 3-8 to measure skills in Reading, Language Arts, Mathematics, Science, and Social Studies. Tennessee is an English only state so all assessments are provided in English only. Results from the TCAP are reported to administrators, teachers and parents. TCAP is scored using Reporting Categories Performance Index (RCPI) Cut Scores with the number of items per reporting category. The Reporting Categories Performance Index is an estimate of the number of items the student would be expected to answer correctly out of 100 items for that category. The scale score is then converted into a normal curve equivalent (NCE) to standardize the test scores into a percentile that is shared with stakeholders including parents and students (Tennessee Department of Education, 2012). During the years 2009 and 2011 the state of Tennessee contracted with MetaMetrics, Inc. to link the TCAP scores to Lexile® scores (Tennessee Department of Education and MetaMetrics, Inc., 2012).

Sigears (2008) reported that National Assessment of Educational Progress (NAEP) assessed fourth and eighth grade student's reading skills in 2011 with no measurable difference from the 2009 score. The fourth grade reading score in 2009 and 2011 was 221 and eighth grade reading score was 264 in 2009 and 265 in 2011 (Sigears, 2008).

### **Problem**

Scholastic, Inc.'s Read 180 is designed for students who are identified as two or more years below reading level. Read 180 scores are measured using Lexile scores (Scholastic, Inc., 2011). Students enrolled in Read 180 are assessed on student performance and fluency in reading, vocabulary, and spelling in addition to a summative assessment on comprehension. The Read 180 assessment is used continuously during the program to progress through the Read 180 program (Scholastic, Inc., 2011). The A+ Learning Links assessment is administered to students twice a year to formatively assess "a student's existing knowledge, comprehension, and mastery of basic skills in language arts and mathematics for grades one through eight." A+ Learning Link assessments can also be used as a predictor for how students will perform on standardized tests (A+ Learning Link, 2012).

Students who reach their target Lexile score using the assessments from the Read 180 program may be dismissed from the program. The question is whether there is a correlation between the proficiency of the Read 180 assessment for dismissal from the program and the A+ Learning Link Lexile score which can be used as a predictor of standardized test academic achievement. Additionally, is there a correlation of these scores based on gender, socioeconomic status, or ethnicity?

### **Purpose**

The purpose of this study was to determine if there is a correlation between the Lexile scores obtained from Read 180 program assessments and the A+ Learning Link assessment Lexile scores. Even though they are both reading assessments, the tests are



not identical, thus the interest in the correlation of Lexile scores between Read 180 and A+ Learning Link assessments.

Read 180 summative assessment scores are used by teachers and administration to determine if students have met mastery to exit the Read 180 program. However, A+ Learning Link scores may paint a different picture to the future success of students. This study will help understand the correlation between those assessment scores and how it plays in the successful completion of the Read 180 program and the future reading success of the student.

### **Significance**

Sigears (2008) shared that in 1999, the Commission of Adolescent Literacy of the International Reading Association reported,

When adolescents enter the work force in the 21<sup>st</sup> century, they will read and write more than at any other time in history. They will need advanced levels of literacy to perform their jobs, run their households, and contribute to society as productive citizens. They will need these literacy skills to decipher the amounts of information they will receive. The ability to read will be crucial to their success as adults. (p. 3)

One of the most prominent concerns for developing a reading program is that it is engaging and must include material that is interesting to the reader. The secondary reading program should focus on goal setting, accountability, high expectations, and have individual personalization (Deshler, Hock, and Catts, 2006).

### **Research Questions**

The purpose of this study was to determine if there was a correlation between the Scholastic, Inc. Read 180 Lexile scores and A+ Learning Links Lexile scores. The study included determining if there was a correlation between the two Lexile scores based on gender, socioeconomic status, and ethnicity.

1. Is there a significant relationship in the assessment Lexile scores between the Learning Links and Read 180?
2. Is there a significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of gender?
3. Is there a significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of socio-economic status (utilizing free and reduced lunch designations)?
4. Is there a significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of ethnicity (majority versus minority)?

While the research questions ask if there is a significant relationship, the null hypothesis asserts that there is none. Therefore, the null hypotheses for this study were:

1. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180.
2. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of gender.

3. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of socio-economic status (utilizing free and reduced lunch designations).
4. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of ethnicity (majority versus minority).

### **Limitations**

A limitation of this study was that the school system must offer Read 180 and assess using A+ Learning Links for the study to exist. The findings of this study were representative only of the studied school system and may not be appropriate for other school systems.

## Definitions

The following terms are used in this study.

1. *Basal reading program* – A collection of student texts and workbooks, teacher's manuals, and supplemental materials for reading instruction, used mainly in the elementary and middle school grades (Harris & Hodges, 1995).
2. *Intervention program* – An educational program used to supplement or replace an existing situation, usually with government funding, intended to expose students to added cognitive stimulation (Harris & Hodges, 1995).
3. *Lexile Scores* - A measure of a student's achievement in reading as it relates to varying difficulty level of books (Scholastic, Inc., 2011)
4. *LM* - Language minority
5. *NCES* - National Center for Education Statistics
6. *Normal curve equivalent (NCE)* - Developed for United States Department of Education by RMC Research Corporation as a way to standardize test scores
7. *Phonics* – Understanding that there is a predictable relationship between the sounds of spoken language and the letters which represent those sounds in written language (NICHHD, 2000).
8. *Reporting Categories Performance Index (RCPI)* - an estimate of the number of items the student would be expected to answer correctly out of 100 items for that category
9. *Scale score* - the raw score has been transformed into a consistent scale.



## **CHAPTER II**

### **LITERATURE REVIEW**

#### **Introduction**

Stanovich's 1981 study concluded that learning to read is not a natural process like learning to speak. Learning to read is a difficult and intricate task (Harris & Hodges, 1995). The whole language approach cannot be supported with the view that children will automatically acquire the ability to become readers without teaching early alphabetic coding instruction. Lyon's study (1998) concluded that children living in poverty enter school without the benefit of exposure to shared reading or language play have an increased risk of failure in reading. Vaughn and Hartfelder (2005) concluded that one way to reduce the risk of reading failure was by providing early reading intervention. Intervention was defined by the National Institute of Child Health and Human Development in the National Reading Panel Report as explicit, systemic reading instruction administered to small groups of students outside the regular instructional period (National Institute of Child Health and Human Development, 2000). Read 180 is an intervention program created by Dr. Ted Hasselbring of Vanderbilt University in collaboration with Dr. Janet Allen, a reading specialist from the University of Central Florida. They formed the Orange County Literacy Project in Florida in 1994. Scholastic joined the project in 1997 and Read 180 was formally released in 1999 (Shawgo, 2012).

#### **Background**

Ancient Greek and Roman teachers used the alphabet to educate citizens of business to read and write. Drill and practice including songs and alphabet blocks were

memorization aids (Sadoski, 2004). Modern teachers continue to use these techniques to teach their students.

The phonic and phonetic methods gained popularity in the 1800s. The use of the McGuffey readers were the first carefully graded series of books containing one book for each elementary grade (Sadoski, 2004). Later greater emphasis was placed on meaning and comprehension in addition to word decoding.

The first standardized tests of the early 20<sup>th</sup> century prompted investigations into how to best teach reading to children. Researchers in 1915 found silent reading to be superior to oral reading in testable areas (Sadoski, 2004).

During the mid-20<sup>th</sup> century, highly organized reading textbooks called basal readers were used to teach reading and associated skills to children. The stories were chosen to illustrate and develop specific reading skills and were taught in a strict pre-determined sequence. The *Dick and Jane* basal readers by Scott Foresman were an example of the highly organized reading textbooks (Penn State University Libraries, 2012).

The Elementary and Secondary Education Act (ESEA) was passed in 1965 as part of President Lyndon Johnson's "War on Poverty." The ESEA emphasized equal access to education and established high standards and accountability. This law was reauthorized every five years until President George W. Bush signed the current reauthorization of the No Child Left Behind Act of 2001 (NCLB) in January, 2002 (U. S. Department of Education, 2002).

In the 1970s and 1980s, during the time of ESEA, reading instruction changed from drill and practice of the alphabet, basic phonics, and memorization of sight words to

whole language instruction. While whole language instruction instilled an appreciation for literature it did not provide instruction in the mechanics of reading. During this time frame American College Test (ACT) and Scholastic Aptitude Test (SAT) scores as well as high school graduation rates declined at a steady pace. As a result of the steady decline, The National Commission on excellence in Education published “A Nation at Risk” (Frey, 2010). The National Reading Panel (NICHHD, 2000) examined thousands of research studies and recommended that the most effective method for instructing at-risk reading students was explicit, systematic and delivered in small group setting with five or fewer students.

Although there are many strategies used to teach students to read, some students still perform lower than their grade level (Cannon, 2011). Achievement levels in reading showed no measurable change in 2011 from 2009, but were higher than in 1992 for fourth grade students. Sixty-seven percent of these fourth graders were performing at or above Basic and only eight percent at the Advanced level (NCES, 2012).

“All children can learn if given the opportunity correct assistance, and appropriate instruction” (Haag Guyne, 2010, p. i). Best practice and research-based interventions and strategies must be utilized daily for improvement to exist (Haag Guyne, 2010). This was especially important since the Commission of Adolescent Literacy of the International Reading Association declared that adolescents of the 21<sup>st</sup> century would be reading and writing more than at any time in human history (Witkowski, 2004).

### **No Child Left Behind**

No Child Left Behind was a product of a steady decline in reading achievement during the 1970s and 1980s. During this time frame students were taught using the whole

language method that abandoned the mechanics of reading. The premise of NCLB was that children would eventually read.

“A Nation at Risk” was published by The National Commission on Excellence in Education in April 1983. “A Nation at Risk” gave a dire forecast for the United States as a nation if action was not taken that would allow United States citizens to become educated and competitive in the world. It stated that homework was less and grades were up and that the population was complacent. The country’s accomplishments of the past were not carrying forward into the newer population (The National Commission on Excellence in Education, 1983).

The No Child Left Behind Act of 2001 amended the Elementary and Secondary Education Act that was originally signed in 1965 as part of President Lyndon Johnson’s “War on Poverty.” The emphasis of ESEA included equal access to education and established high standards and accountability. In addition, the law authorized federally funded education programs that were administered by the states. President George W. Bush signed the No Child Left Behind Act of 2001 (NCLB) in January 2002. NCLB reauthorized an amended version of ESEA with the addition of emphasis of four pillars within the bill: Accountability: to ensure those students who are disadvantaged, achieve academic proficiency; Flexibility: Allows school districts flexibility in how they use federal education funds to improve student achievement; Research-based education: Emphasizes educational programs and practices that have been proven effective through scientific research; Parent options: Increases the choices available to the parents of students attending Title I schools (U. S. Department of Education, 2002).



NCLB also required each state to establish state academic standards and a state testing system that met federal requirements. The accountability requirement was called Adequate Yearly Progress (AYP) (U. S. Department of Education, 2002). NCLB promoted scientifically researched reading programs that match highly qualified teachers with necessary effective instructional strategies (Gagliardi, 2011).

### **Requirements for Reading**

Reading skills i.e., word decoding and reading comprehension, can be affected by different underlying deficits that can manifest themselves through different levels of language and reading performance. Children with “language comprehension deficits will differ from the reading performance of a child with phonological processing deficits” (Ekelman, 1993, p. 4). A reader must accomplish several skills to make meaning of reading. One skill is decoding phonological and syntactic information. Another skill is to draw on vocabulary and background knowledge, and then remember what has been read. Another skill children must have is an understanding of the purpose for reading (Lesaux & Kieffer, 2010).

### **Status of Reading**

“Without ongoing literacy instruction, students who are behind in reading when they enter the middle grades likely will never catch up” (Heller & Greenleaf, 2007, p. 2). Scores have remained flat for the secondary level since the 1970s. More than two thirds of all eighth and twelfth graders read at a less than proficient level, and half of those fall so far behind they don’t even appear on the U. S. Department of Education most basic level scale (Heller & Greenleaf, 2007). The National Center for Education Statistics (2007) details that test results showed that the reading ability of 21,000 high school

seniors were: 65% scored at or below the Basic Level, 30% scored at the Proficient Level, and 5% scored Advanced. Additionally, 69% of United States public school fourth graders were identified with reading difficulties (NCES, 2007). The National Assessment of Educational Progress (NAEP) revealed the following dismal scores for public school students for 2007: 34%-Below Basic; 34%-Basic; 24%-Proficient; and 7%-Advanced (NAEP, 2007). American College Test (ACT) (2006) reported that 49% of 1.2 million high school graduates completing the 2006 American College Test were not ready for college-level reading (ACT, Inc., 2006).

Evaluation of individual students Normal Curve Equivalent (NCE) revealed that students across the county in Dr. Sigears study were “consistently below proficient in reading and not experiencing appropriate gains due to the inability to read content area material” (Sigears, 2008, p. 6). Reading instruction shifts from learning to read in elementary school to reading to learn in middle school (Johnson, 2011). Frey shares that reading intervention was crucial for student success (Frey, 2010). However, reading programs have proven ineffective (Sigears, 2008). Alliance for Excellent Education president Frost stated, “If you want a predictor of who will leave before twelfth grade, it’s those eighth-grade reading scores” (Lewin, 2004, p. 1).

### **Providing Intervention**

NCLB mandated that scientifically validated reading interventions must be used by schools that receive federal funding (Lawson, 2011). Many educational publishers provide reading software programs with technology as a motivator (Wu, 2009). Additionally, results from 20 studies indicated that technology used for teaching and

learning had a significant small, positive effect on students' outcomes compared with traditional instruction (Campbell, 2006).

Biancarosa (2005) researched reading interventions and found that the most effective programs/strategies included:

- Direct, explicit instruction
- Effective instructional principles embedded in the content
- Motivation and self-directed learning
- Text-based collaborative learning
- Strategic tutoring
- Diverse texts
- Intensive writing
- Technology component
- Ongoing formative assessment of students

Read 180 has these effective programs/strategies in its program (Kratofil, 2006).

### **Read 180**

Dr. Ted Hasselbring of Vanderbilt University in collaboration with Dr. Janet Allen, a reading specialist from University of Central Florida created Read 180. They formed the Orange County Literacy Project in Florida in 1994. Scholastic joined the project in 1997 and Read 180 was formally released in 1999 (Shawgo, 2012).

The Read 180 program has a very structured delivery. The program requires 90 minute class sessions that includes 20 minutes of whole group direct instruction and three 20 minute sessions of smaller group rotations that consist of small group direct instruction, independent student use of the Read 180 computer program, and independent

reading of Read 180 paperbacks and audio books. Class sessions end with a 10 minute whole group wrap-up session (Lawson, 2011; Kim, Samson, Fitzgerald, & Hartry, 2009; Bebon, 2007; Gentry, 2006; Papalewis, 2004).

Some research studies have found statistically significant gains in reading by using the Read 180 program (Nelson, 2008; Kratofil, 2006; Woods, 2007; Kim, Capotosto, Hartry, & Fitzgerald, 2011; Palubinsky, 2008; Zhu, 2008; Nave, 2007; Jacobs, 2012; Casey, 2010). However, other research studies have found mixed results of using the Read 180 program (Wilemme, 2011; Lawson, 2011; Gentry, 2006; Robby, 2008; Bebon, 2007; Bishop-Kallmeyer, 2008; Barbato, 2006; Kim, Samson, Fitzgerald, & Hartry, 2009; Caggiano, 2007; Menendez, 2009). McWhorter's (2009) study showed that there was no statistically significant difference for the Read 180 group compared to the traditional English course. One study researched the teacher's manuals of three intervention programs; one of these programs was Read 180. None were found to meet all standards required for effective instruction (Vintinner, 2009).

### **A+ Learning Links**

A+ Learning Links was created by The American Education Corporation. A+ Learning Links was used in conjunction with A+nyWhere Learning System which was also a creation of The American Education Corporation. The 2004 reauthorization of the special education law coined a descriptive phrase known as Response to Intervention (RTI). Funds have allowed the law to become widespread (A+®Family of Products and Response to Intervention, 2008).

Response to Intervention integrated assessment and intervention. Schools must actively identify at-risk students and intervene before students have problems under the



principle known as universal screening. Students were monitored to ensure that they continue to progress. The intervention must be scientific-based as having a high degree of probability of success with students (A+®Family of Products and Response to Intervention, 2008).

The most common model for RTI is a three-tier model. Students in Tier I achieve success with scientific-based instruction intended for basic instruction. Students must be screened to monitor that progress has been made but generally 75 to 85% of all students can be successful at Tier I. Tier II caters to students who are at risk of failure, not necessarily failing. Students in Tier II receive more intensive, more differentiated instruction for a short-term boost. About 10 to 15% of students receive interventions in Tier II. About 5 to 10% of students function in Tier III. Tier III students must receive more intensity or higher differentiation. The tiered RTI program provides students the ability to move through the tiers as needed for success (A+®Family of Products and Response to Intervention, 2008).

A+ Learning Links uses The Lexile Framework for Reading as a basis of its scoring system. Grade levels have a span of student measures by Lexile scores. Students who read below the range for their grade of enrollment or below basic according to state standards should be considered for Tier II (A+®Family of Products and Response to Intervention, 2008). Response to Intervention was an attempt to ensure that students receive the instruction needed to be successful and has funding by federal special education legislation (A+®Family of Products and Response to Intervention, 2008). The A+ Learning Link assessment is a computer assessment (A+ Learning Link, 2012, October) which is a student motivator (Wu, 2009). A+ Learning Link assessments are

currently administered to students in a southeastern county in the United States to identify and monitor student achievement.

### **Reading Impacts on Gender**

For more than three decades tests have shown that females outperform males (U.S. Department of Education, 2004). Four epidemiological studies revealed that significantly more males than females had reading disabilities (Rutter et al., 2004). Statistics have indicated a growing gap in the achievement of male reading achievement. “Boys and girls do learn differently” (p. iv). Considering brain-based gender differences were vital to planning and implementing of the curriculum (Bonomo, 2012). In a Huffington Post blog, however, Jack Jennings, President and CEO of the Center on Education Policy shared that while the nation has focused on increasing math scores for females, the males have not been as successful in reading. Mr. Jennings espoused that the increase in math scores for females have disproved some experts’ assertion that females’ brains are structurally different than males (Jennings, 2011). Motivation for reading has been associated with reading comprehension performance. Males benefit from a systematic synthetic phonics teaching approach (Logan & Johnston, 2010). The Nation’s Report Card Reading 2007 from the National Assessment of Educational Progress at Grades four and eight reported that the fourth graders and eighth graders were 50% male and 50% female. Male fourth graders achieved an average scale score of 216; and female fourth graders achieved an average scale score of 223 on a scale of 0 to 500. Among eighth graders the male students achieved an average scale score of 256 while the female students achieved an average scale score of 266. Trends of eighth graders score

gaps have closed from 13 points in 1992 to 10 points in 2007 between males and females. Females consistently attain higher average scores (NAEP, 2007).

### **Reading Impacts on Socioeconomic Status**

The total number of 5 to 17 year olds living in low socioeconomic status households increased from 17% in 2006 to 21% in 2011 (NCES, 2012). Over three quarters of Language Minority (LM) children in the United States were classified as low socioeconomic status. Vocabulary deficits have a deceleration effect in reading comprehension among low socioeconomic children in the upper elementary grades (Lesaux & Kieffer, 2007). The Nation's Report Card Reading 2007 from the National Assessment of Educational Progress at Grades four and eight reveal that among fourth graders 45% were eligible for free/reduced lunch had an average scale score of 205; and the 54% that were not eligible had an average scale score of 232. NAEP (2007) reports a positive trend in average reading scores for students from all socio-economic status, however the gap between 2003 and 2007 has only closed by one point between students who are eligible for free lunch and those who are not eligible.

Among eighth graders 40% were eligible for free/reduced lunch and had an average score of 247; and the 58% that were not eligible had an average score of 271. Trends for eighth grade students eligible for free lunch scale scores have shown an increase from 244 in 2003 to 246 in 2007. Students eligible for reduced priced lunch scale score actually decreased from 258 in 2003 to 255 in 2007. Students not eligible for free/reduced lunch scale score remained the same in 2003 and 2007 at a scale score of 271. About one third of eighth graders in 2007 were eligible for free lunch, 6% were

eligible for reduced lunch, and 55% were not eligible for the free/reduced lunch program (NAEP, 2007).

**Reading Impacts on Ethnicity**

NCES (2003) reported that White students outperformed their African American and Latino counterparts on all mathematics and literacy tasks assessed (NCES, 2003). NAEP (2007) reported that the White, Black, Hispanic, and Asian/Pacific Islander showed Reading assessment score increases from 1994 to 2007. The American Indian/Alaska Native showed an eight point decrease in assessment score from 1994 to 2007.

Table 1  
*Fourth Graders Average Reading Scores by Ethnicity*

Test Years	White	Black	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native
1992	224	192	197	216	211
2007	231	203	205	232	203

The trend shown in Table 1 of average reading scores for fourth graders between White and Black has been closing. In 1992 the gap was 32 and in 2007 it was 27. The trend for the gap between average reading scores between White and Hispanic has remained about the same. The gap was 27 in 1992 and was 26 in 2007. The fourth grade



average reading score of Black to Hispanic were very close with the Hispanic scores generally even or a little higher than the Black scores (NAEP, 2007).

Table 2

*Eighth Graders Average Reading Scores by Ethnicity*

Test Years	White	Black	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native
1992	267	237	241	268	248
2007	272	245	247	271	247

The trend in Table 2 shows that the gap between the average reading scores between White and Black eighth graders has been closing more than the gap between the White and Hispanic eighth graders. The gap between White and Black in 1992 was 30 and the gap in 2007 was 27. The gap between White and Hispanic in 1992 was 26 and the gap in 2007 was 25. The eighth grade reading scores between Black and Hispanic have been generally very close except for the 1992 and 1994 reporting years where the scores were a little further apart: 4 points in 1992 and 7 points in 1994. From 1998 to 2007 the Black and Hispanic scores have been within 3 points of each other. The overall trend is that there has been no change in score gaps from 1992 to 2007 for eighth grade reading scores (NAEP, 2007).

## Summary

Even though reading is a difficult and intricate task and is not a natural process like learning to speak (Harris & Hodges, 1995), many strategies have been implemented since the Ancient Greek and Roman teachers (Sadoski, 2004). In the 1800s, phonic methods were taught using McGuffey readers (Sadoski, 2004), and then in the mid-20<sup>th</sup> century basal readers were used to teach students reading. The *Dick and Jane* basal readers by Scott Foresman were an example (Penn State University Libraries, 2012).

Two past presidents, President Lyndon Johnson and President George W. Bush passed laws to emphasize equal access to education and establish high standards and accountability. The ESEA was passed in 1965 by President Lyndon Johnson and NCLB was signed in January, 2002. During that time frame the ESEA was reauthorized each five years (U. S. Department of Education, 2002). Also during that time frame, scores from ACT and SAT were declining at a steady pace (Frey, 2010).

Unfortunately, students across a county in the Southeastern part of the United States have scored consistently below proficient in reading from an inability to read content area material (Sigears, 2008). Students must receive reading intervention to obtain success (Frey, 2010).

NCLB mandated that scientifically validated reading interventions must be used by schools that receive federal funding (Lawson, 2011). Of the many educational publishers of reading software programs (Wu, 2009) there has been an interest in enhancing literacy in all content areas through the integration of technology (Sternberg, Kiaplan, & Borck, 2007).

Reading programs were researched and effective programs/strategies were found. Read 180 has the components necessary to be effective (Kratofil, 2006).

A+ Learning Links universal screening has been useful to determine students who may have academic problems as an intervention to address the problem often before it becomes a problem. Assessments are administered to students twice a year (A+®Family of Products and Response to Intervention, 2008). The students of the studied school system receive A+ Learning Links assessments.

Gender's impact on the reading scale score has been consistently documented by NAEP scores between 1992 and 2007. The fourth grade average reading scores in 1992 showed a gap of 7 points between male and female: male 216, female 223. The eighth grade average reading scores in 2007 showed a gap of 10 points between male and female: male 256, female 266 (NAEP, 2007). Female students' average reading scale scores did indicate that they outperform male students at the fourth and eighth grade level. Whether motivation as indicated by Educational Review by Logan & Johnston (2010), increased male reading disabilities (Rutter et al., 2004), or brain based gender differences (Bonomo, 2012; Jennings, 2011) were the factors for the difference in reading scale scores.

Low socio-economic status households of students ages 5 to 17 increased 4% between the years 2006 to 2011 (NCES, 2012). NCES (2003) reported that White students outperform African American and Latino students on all mathematics and literacy tasks assessed (NCES, 2003). Reading material must be culturally relevant to support reading success for students (Caldwell, 2009). Average reading scores increased between the years of 2003 to 2007 for fourth grade students who are participants of

free/reduced lunch. Those students scores of non-participants of free/reduced lunch have consistently increased however the gap between the participants and non-participants scores closed only by one point (NAEP, 2007). The trend for average reading scores for eighth grade students eligible for free lunch increased between 2003 and 2007; however, students eligible for reduced-priced lunch actually dropped 3 points from 258 to 255. Eighth grade students not eligible for the free/reduced lunch program stayed the same at 271 for 2003 and 2007 with a slight dip to 270 in 2005 (NAEP, 2007).

Ethnicity impact on reading has shown slight improvement for Black, White, Hispanic, and Asian/Pacific Islander. The American Indian/Alaskan Native group has decreased in reading scale score. The White group has consistently scored higher than the other ethnicities. The Black and Hispanic ethnicities scores are very similar through the 1992 to 2007 years. This was indicated by the score gap that remained about the same from years 1992 through 2007 (NAEP, 2007).



## **CHAPTER III**

### **METHODOLOGY**

#### **Purpose**

The purpose of this study was to examine the possibility of a correlation between the Lexile scores of Read 180 and A+ Learning Link assessments. The existence of a relationship between the Read 180 and A+ Learning Link assessments as well as the strength of any relationship would be an indicator of whether the Read 180 intervention program had given the student the ability to reach a successful level to exit the program. Read 180 success could translate into achieving success on the A+ Learning Link assessment which would predict the student's ability to achieve success on the TCAP assessment.

#### **Research Design**

This study utilized quantitative research methodology to find if there was a correlation between the Read 180 Lexile scores and the A+ Learning Link Lexile scores. According to Merriam-Webster (2012), the definition for correlation was a "relationship existing between phenomena or things or between mathematical or statistical variables which tend to vary, be associated, or occur together in a way not expected on the basis of change alone" (Merriam-Webster, 2012).

Archived data was collected from the participating school system upon receiving Austin Peay State University Institutional Review Board (IRB) (see Appendix A) and district approval (see Appendix B). Data included Read 180 Lexile scores, A+ Learning Link Lexile scores, TCAP normal curve equivalent, as well as the demographics of gender, ethnicity, and socioeconomic status of the participants of Read 180 during the

2011-2012 school years. Data was gathered and all identifiable material was removed by an authorized agent of the district.

### Participants

Participants of this study were middle school students who were enrolled in Read 180. Middle school grade levels for the participating county were sixth, seventh, and eighth grades. Students who did not generate a score for any one of the assessments were not included in this study.

The participating county serviced nearly 30,000 students for the entire county in the 2011-2012 school year (Tennessee Department of Education, 2012). Of these nearly 30,000 students, 455 were middle school students enrolled in Read 180 during the 2011-2012 school year in seven middle schools. Represented in Table 3 was the number of male and female students by grade of the 391 students who were included in this study.

Table 3

*Total participants by gender per grade*

Grade	No. Students in Read 180	Gender	
		Male	Female
sixth	146	75	71
seventh	130	65	65
eighth	115	62	53
Totals	391	202	189

Socioeconomic YES students who participated in the free and reduced lunch program and NO students who were non-participants in the free and reduced lunch program broken down by grade were represented by Table 4.

Table 4

*Total participants by socio-economic status per grade*

Grade	No. Students in Read 180	Socio-economic	
		YES	NO
sixth	146	99	47
seventh	130	87	43
eighth	115	81	34
Totals	391	267	124

Ethnicities included in this study were White, Black, Hispanic, Asian, Pacific Islander, and Indian. Table 5 represented the majority and minority participant totals broken down by grade for this study. Majority ethnicity was White. Minority ethnicities group was Black, Hispanic, Asian, Pacific Islander, and Indian.

Table 5

*Total participants by ethnicity (majority versus minority) per grade*

Grade	No. Students in Read 180	Ethnicity	
		Majority	Minority
sixth	146	75	71
seventh	130	52	78
eighth	115	51	64
Totals	391	178	213

### **Instrument**

The instruments used to create this archival data were the Lexile scores of the Read 180 and Learning Links assessments. Microsoft Excel 2007 Statistics Tools and GraphPad QuickCalcs were used for analyzing the data.

### **Procedure**

The participating school system and APSU Institutional Review Board gave approval for the study. Archival data was collected from the participating school system. All identifiable material was removed by an authorized agent of the district. Participants who were missing one of the scores were not included in the study.



### **Null Hypotheses**

The null hypothesis generally states that there is no relationship with respect to the population of the study. The null hypotheses for this study were:

1. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180.
2. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of gender.
3. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of socio-economic status (utilizing free and reduced lunch designations).
4. There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of ethnicity (majority versus minority).

If a correlation existed between the Scholastic, Inc. Read 180 Lexile scores and A+ Learning Links Lexile scores, the null hypothesis would be rejected and a correlation would be supported.

### **Statistical Analyses**

Statistical data analysis was performed to find the Pearson Correlation Coefficient  $r$  value using Microsoft Excel Statistics Tools add-on. GraphPad online calculation was used for  $p$  value and descriptive of statistical significance. Using the data of Lexile scores from Read 180 and Learning Links for the school district, a scatter plot was generated and analyzed for trend.

### **Treatment**

Archival data was collected for this study, therefore there was no treatment.

## CHAPTER IV

### RESULTS OF THE STUDY

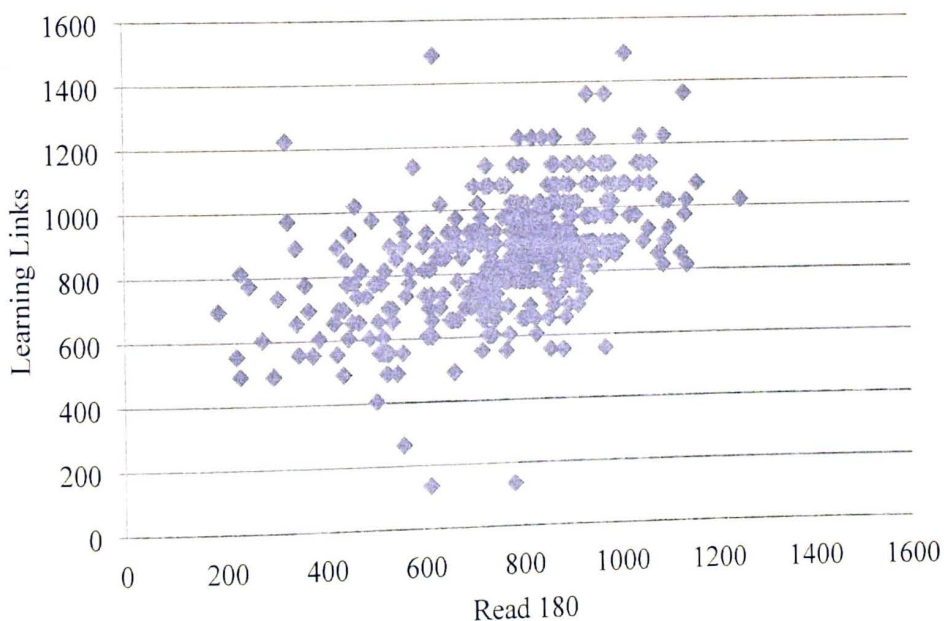
#### Introduction

The results of this study revealed that there was a statistically significant correlation between the Lexile scores of the Read 180 and Learning Link assessments. Results of this study also revealed that the Lexile scores of the Read 180 and Learning Link assessments for the demographics of gender, socioeconomic status and ethnicity were statistically significant.

Table 6 for the participating school system indicated that there was a trend for a relationship between the Lexile scores of Read 180 and Learning Links assessments.

Table 6

*Read 180 & Learning Links Lexile Scores for the Participating School System*



**Findings for the Analysis of Data for Hypothesis One**

There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180.

The relationship of Lexile scores between the Learning Links and Read 180 for the school system was found to be statistically significant at a r value of 0.4837  $df= 390$  for a two-tailed test  $p <0.0001$  as shown in Table 7. The null hypothesis stated that there was no relationship between Lexile scores between Learning Links and Read 180. The acceptable level to reject the null hypothesis was  $<0.05$ . The null hypothesis was rejected because there was a statistically significant relationship between the Lexile scores of Learning Links and Read 180 assessments. The coefficient of determination indicates that 23% of the total variation could be explained by a linear relationship.

Table 7  
*Relationship between Learning Links and Read 180*

School system	r value	df	p value
School system	0.4837	390	$<0.0001$ *

\* $p<.05$



### Findings for the Analysis of Data for Hypothesis Two

There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of gender.

The r values by gender represented by Table 8 show a wide difference between male and female correlation.

Table 8

*Comparison by gender*

Gender	r value	p value
Female	0.60151	<0.0001 *
Male	0.41102	<0.0001 *

\* $p < .05$

The relationship of Lexile scores between the Learning Links and Read 180 when evaluated for gender was found to be statistically significant at an r value of 0.41102  $df = 201$  for a two tailed test  $p < 0.0001$  for males and an r value of 0.60151  $df = 188$  for a two tailed test  $p < 0.0001$  for females. The null hypothesis stated that there was no relationship between Lexile scores between Learning Links and Read 180 when evaluated by gender. The acceptable level to reject the null hypothesis was  $< 0.05$ . There was a statistically significant relationship between the Lexile scores of Learning links and Read 180 assessments in terms of gender thus the null hypothesis was rejected. The

coefficient of determination indicated that 17% of total variation could be explained by a linear relationship for males and 36% of total variation could be explained by a linear relationship for females.

### **Findings for the Analysis of Data for Hypothesis Three**

There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of socio-economic status (utilizing free and reduced lunch designations).

R values by Socioeconomic Status Table 9 indicated that there was a strong correlation between Read 180 and Learning Links r value for participants of the free and reduced lunch program and non-participants of the free and reduced lunch program.

Table 9

*Comparison by socio-economic status*

Socio-economic	r value	p value
Received	0.49775	<0.0001 *
Not Received	0.43666	<0.0001 *

\*p<.05

The relationship of the Lexile scores between Learning Links and Read 180 when evaluated in terms of socio-economic status (utilizing free and reduced lunch) was revealed as statistically significant. Socio-economic YES r value 0.49775  $df = 266$  for a two tailed test  $p < 0.0001$  and socio-economic NO r value 0.43666  $df = 123$  for a two

tailed test  $p < 0.0001$  supported the rejection of the null hypothesis which stated that there was no relationship between the Lexile scores between Learning Links and Read 180 assessments. The rejection level was  $< 0.05$ . Participants of free/reduced lunch coefficient of determination indicated that 25% of total variation could be explained by a linear relationship. Non-participants of free/reduced lunch coefficient of determination indicated that 19% of total variation could be explained by a linear relationship.

#### **Findings for the Analysis of Data for Hypothesis Four**

There is no significant relationship in the assessment Lexile scores between the Learning Links and Read 180 when evaluated in terms of ethnicity (majority versus minority).

The relationship of the Lexile scores between Learning Links and Read 180 when evaluated in terms of ethnicity (majority versus minority) was found to be statistically significant for majority and minority.

Table 10

*Comparison by ethnicity (majority versus minority)*

Ethnicity	r value	p value
Majority	0.439620	$< 0.0001$ *
Minority	0.522644	$< 0.0001$ *

\* $p < .05$

Table 10 revealed the  $r$  values for each ethnicity group. The majority  $r$  value of 0.43962  $df = 177$  for a two tailed test and  $p < 0.0001$  clearly indicated that the relationship between the Lexile scores of Learning Links and Read 180 was statistically significant at the .05 level of significance. The minority (Black, Hispanic, Asian, Pacific Islander, and Indian)  $r$  value of 0.522644  $df = 213$  for a two tailed test and  $p < 0.0001$  indicated that the relationship between the Lexile scores of Learning Links and Read 180 were statistically significant. The minority and majority results support the rejection of the null hypothesis which stated that there was no relationship between the Lexile scores between Learning Links and Read 180 assessments. The acceptable level to reject the null hypothesis was  $< 0.05$ . The coefficient of determination indicated that 19% of total variation could be explained by linear relationship for the ethnic majority group. The coefficient of determination indicated that 27% of total variation could be explained by linear relationship the ethnic minority group.

### **Summary of Results**

Each of the four hypotheses addressed in this study stated that there was no correlation between the Learning Links and Read 180 assessments. Hypothesis one stated that there was no relationship between the Lexile scores of Learning Links and Read 180 for the school system. Null hypothesis one was rejected. Statistical significance was found to support a relationship between the Lexile scores of the Learning Links and Read 180 assessments. Hypothesis two stated that there was no relationship between the Lexile scores of Learning Links and Read 180 when evaluated in terms of gender. The null hypothesis two was rejected. Statistical significance was found to support that there was a relationship between the Lexile scores of the Learning



Links and Read 180 assessments for each gender. Hypothesis three stated that there was no relationship between the Lexile scores of Learning Links and Read 180 when evaluated by socio-economic status. The null hypothesis was rejected for hypothesis three. There was a relationship between the Lexile scores of Learning Links and Read 180 assessments. Hypothesis four stated that there was no relationship between the Lexile scores of Learning Links and Read 180 when evaluated for ethnicity (majority versus minority). The null hypothesis for hypothesis four was rejected indicating a statistical significance in the relationship between the Lexile scores of Learning Links and Read 180 existed.

The results were conclusive in revealing that there was a statistically significant relationship between the Lexile scores of Learning Links and Read 180 scores for each variable tested.

## **CHAPTER V**

### **SUMMARY, DISCUSSION, CONCLUSIONS, and RECOMMENDATIONS**

This chapter summarizes the purpose, demographic data, and methods used for this study. It also includes a summary of the findings and provides conclusions drawn from the findings. In addition; discussion, implications, and recommendations for further study are presented.

#### **Purpose of the Study**

The purpose of this study was to find if there was a relationship between the Lexile scores of the Learning Links and Read 180 assessments for the participating school system. The study was to further find if there was a relationship between the Lexile scores of the Learning Links and Read 180 assessments for the demographics of gender, socio-economic status, and ethnicity (majority versus minority).

#### **Demographic Data**

Participants of this study included 391 of 455 students who were enrolled in the Read 180 program. Participants excluded from the study did not have scores to include in the study. The details of the gender, socio-economic status and ethnicities (majority versus minority) of the participants were represented in Tables 7, 8, and 9 respectively.

#### **Methodology**

Approval to conduct the study was requested from the participating school system and Austin Peay State University Institutional Review Board. Upon approval, archival data from the 2011 – 2012 school year Lexile scores of the Learning Links and Read 180 assessments were collected from the participating school system and all identifiable

material was removed by an authorized agent of the district. The data was analyzed using Microsoft Excel 2007 and GraphPad.

### **Summary of Findings**

This study revealed that the Lexile scores of Learning Links and Read 180 assessments had a statistically significant relationship. In each calculation the p value remained at  $<0.0001$  so the percentage to retain the null hypothesis was very low. The positive p value indicated that as one assessment Lexile score increased so did the Lexile scores of the other assessment.

### **Conclusions & Discussion**

This study revealed that the use of Read 180 Lexile scores to determine the success of students reading ability to be exited from the Read 180 program is appropriate. Read 180 is a highly scripted program used for students who are two or more years below reading level. Learning Links is used in an attempt to identify students who may need a little extra support through the Read 180 program to keep them successful. The Read 180 program is very fluid. Students can move according to their Lexile scores in the program as these scores are used to move a student through the levels or exit the program.

### **Implications**

“Without ongoing literacy instruction, students who are behind in reading when they enter the middle grades likely will never catch up” is a profound statement (Heller & Greenleaf, 2007, p. 2). The use of Learning Links to identify struggling readers and Read 180 to support those struggling readers was one way for middle grade students to receive ongoing literacy instruction. The questions posed in this study were to find if there was indeed a relationship between the Lexile scores of these two assessments that were used

in the participating school system. The demographics of gender, socio-economic status, and ethnicities were included to see if there was a trend.

This study supported the use of Read 180 Lexile scores as a measure for students to have reached success to exit the Read 180 program. The correlation was statistically significant for each of the four questions addressed in this study relating to the relationship between the Lexile scores of Learning Links and Read 180 assessments. Teachers and administrators use this information to identify and reinforce student's ability so that the student will be a successful.

### **Recommendations for Further Research**

Further research on the relationship between the Lexile scores of Learning Links and Read 180 should be replicated with more school systems that use Read 180 and Learning Links assessments so that generalization can be obtained for each of the questions asked in this study. Further research could also be conducted longitudinally with the tested participants to ascertain if the assessments truly did identify those participants who were ready to exit the program or if the participants experienced a reading relapse after exiting the program.



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## Appendices

Appendices.....	53
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**Appendix A**

Austin Peay State University Institutional Review Board Approval.....54

April 12, 2012

RE: Study number 12-029: A Correlational Study between Learning Links and Read 180 using MetaMetrics Lexile Measures in Clarksville-Montgomery County School System.

Dear Ms. Cheatham,

Thank you for your recent submission of requested revisions. We appreciate your cooperation with the human research review process.

This is to confirm that revisions for Study # 12-029 have been approved. This approval is subject to APSU Policies and Procedures governing human subject research. The full IRB may still review this protocol and reserves the right to withdraw approval if unresolved issues are raised during the review.

Your study remains subject to continuing review on or before April 10, 2013, unless closed before that date. Please submit the appropriate form prior to April 10, 2013.

Please note that any further changes to the study must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. If you have any questions or require further information, you can contact me by phone (931-221-7467) or email ([davenportd@apsu.edu](mailto:davenportd@apsu.edu)).

Again, thank you for your cooperation with the APSU IRB and the human research review process. Best wishes for a successful study!

Sincerely,



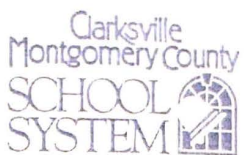
Doris Davenport, Chair  
Austin Peay Institutional Review Board

Cc: Dr. Donald Luck, Faculty Supervisor

## Appendix B

Clarksville Montgomery County School System Field Study Approval.....	56
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Sallie Armstrong, Ed.D.  
Curriculum & Instruction Director

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Board of Education    621 Gracey Avenue    Clarksville, Tennessee 37040  
931-920-7819    Fax: 931-920-9819    email: [sallie.armstrong@cmcss.net](mailto:sallie.armstrong@cmcss.net)

March 13, 2012

Dear Ms. Cheatham,

Your request to conduct research entitled *A Correlational Study between Learning Links and Read 180 using MetaMetrics Lexile Measures* from 2012 archival testing data. Please remember that the complete resulting data is to be given to the District.

Sincerely,

A handwritten signature in cursive script that reads "Sallie Armstrong".

Sallie Armstrong, Ed.D.  
Curriculum and Instruction Director

## Curriculum vitae

### PATSY CHEATHAM

P. O. Box 31742, Clarksville, TN. 37040 | patsy.cheatham@cmcss.net

#### EDUCATION

Austin Peay State University, Clarksville, TN 37044

**Ed.S.**

**2012**

Field Study: "A Correlational Study Between Learning Links and Read 180 Using MetaMetrics Lexile Measures"

Austin Peay State University, Clarksville, TN 37044

**M.A.Ed.**

**2009**

Area of Concentration: Curriculum and Instruction

Austin Peay State University, Clarksville, TN 37044

**B.S.**

**2006**

Areas of Concentration: Science and Social Studies

Volunteer State Community College, Gallatin, TN 37066

**A.S.**

**2004**

#### TEACHING EXPERIENCE

Kenwood Middle School, Clarksville, TN 37042

**Instructor**

**2007 - Present**

Taught 7<sup>th</sup> grade science, 6<sup>th</sup> grade social studies, and computer literacy.

East Robertson High School, Cross Plains, TN 37049

**Instructor**

**2006**

Eighth grade science

#### RELATED EXPERIENCE

H. B. Williams Elementary School, White House, TN 37188

**Instructional Assistant**

**2002 - 2004**

Provided assistance to the Special Education Department.