



PERSONAL READING STRATEGIES OF COLLEGE FRESHMEN PLACED IN A DEVELOPMENTAL READING CLASS

Gina Berridge

Lori Eggers Saxby

Kelly Sparks

Clarissa Willis

University of Southern Indiana

Correspondence concerning this article should be addressed to Gina Berridge,
Department of Teacher Education, University of Southern Indiana, Evansville, IN 47712
ggberridge@usi.edu

Abstract

Research supports the importance of metacognitive awareness as a means of monitoring and promoting reading comprehension. The purpose of this study was to examine the reading habits including comprehension strategies college students use when reading, and the impact those strategies have on reading ability. Comprehension strategies were defined as conscious processes students use to understand and process what they read. A 26 question survey was developed that incorporated a list of comprehension strategies and from the Metacognitive Awareness of Reading Strategies Inventory (MARS) developed by Mokhtari and Reichard (2002). Most of the college freshman in this study appeared not to have the comprehension and metacognition skills needed to strategically engage and interact with academic texts. Based on these results, the authors suggest that students placed in developmental reading courses at colleges and universities would benefit from explicit and systematic teaching of comprehension and metacognition strategies to understand the complex and critical text that post-secondary education requires.

Keywords: literacy, metacognitive awareness, explicit teaching

PERSONAL READING STRATEGIES OF COLLEGE FRESHMEN PLACED IN A DEVELOPMENTAL READING CLASS

Success in college is dependent upon a student's ability to strategically interact and to comprehend an array of academic material. According to Lewin (2005), a major predictor of college success is the ability to read and comprehend complex text; however, studies show that 65% of 12th grade students in the U.S. read below grade level. Approximately 36% of U.S. freshmen enroll in at least one developmental course during their freshman year in college (Attewell, Lavin, Domina, & Levey, 2006; National Center for Education Statistics (NCES), 2008), and that remediation rate is as high as 50% in some states (Vandal, 2010).

Statistics show that in 2014 only 44% of high school graduates met the ACT college readiness benchmark in reading (ACT, 2014) and only 43% met the SAT college and career benchmark (SAT, 2014). To further understand the effects of reading readiness and success in college, freshmen enrolled in a developmental reading class were surveyed.

The purpose of this study was to examine the reading habits including comprehension strategies college students use when reading, and the impact those strategies have on reading ability. This study was



conducted in a Midwest university with students who were placed in a developmental reading course their first semester of college because of low ACT or SAT reading scores.

Literature Review

Young adults often come to college unprepared for the rigorous and demanding level of academic reading. In a report by Bailey, Jeong, and Cho (2010) examined 57 community colleges and found that 33% of the students were referred to a developmental reading course. The New York State Education Department reported that only 37% of students who graduated in 2010 were adequately prepared for college (Otterman, 2011), while in Texas fewer than one in two students met the college readiness benchmark in both the ACT and SAT in 2010 (Smith, 2012).

National reports indicate that adults and youth do not read as much or as well as they did 20 years ago (Mokhtari, Reichard, & Gardner, 2009). In a detailed report of Americans, including young adults, the National Endowment for the Arts (2007) drew some startling conclusions: 1) Americans as a group are spending less time reading, 2) overall reading comprehension skills are eroding, and 3) this decline in literacy will have serious civic, social, cultural and economic implications. Research has also shown that unskilled adolescent and adult readers are limited in their metacognitive processes, and they tend to focus on decoding words rather than comprehension (Mokhtari & Reichard, 2002).

A difference in reading comprehension between males and females was also noted. The National Assessment of Educational Progress (2013) examined reading comprehension of students ages 9, 13 and 17 and found that females scored higher than males regardless of which age was examined. The study also reported that the reading skills of 17-year old males have not improved since 1971. Logan and Johnston (2009) reported that the attitude of females toward reading was positive and that they read better and more frequently than their male counterparts. They also found that reading ability correlated with the volume of reading and since females read more frequently than males, females consistently outscored males on achievement tests.

Strategic reading defined as the ability to read and understand complex text, is necessary to be successful in college. Students who do not read strategically are at a disadvantage that may compromise their ability to graduate on time or at all. In a study by Temple, Ogle, Crawford, and Freppon (2014), students need to develop critical reading skills. Critical reading skills include focusing on the text, while carefully scrutinizing the structure and the individual parts of the text as well. In other words, a reader would dissect the text much like a scientist might dissect an organism: (1) looking at all the parts individually; (2) examining the relationship each part shares with counterparts; and (3) considering the function of the organism as a whole.

Reading Comprehension

Reading comprehension, or the act of making meaning out of what is read, is the ultimate purpose of reading. In other words, comprehension is the creative ability to make meaning out of what is read (Tierney, 1990). While the ability to decode words, to read fluently, and to build vocabulary, are important components of reading, individuals read for one or more of the following reasons: (1) to learn new information; (2) to gain new perspectives from others' points of view and (3) to vicariously experience being a part of the story. Comprehension strategies involve conscious application of the following: monitoring overall comprehension of the passage, connecting to world knowledge, predicting what will happen, recognizing the nuances of text structure, asking questions and answering questions



specifically relate to the text, constructing mental images and summarizing what was read (Honig, Diamond & Gutlohn, 2013). As students choose and apply these strategies to read and make sense of the text, they become more cognizant of their comprehension. Honig and his colleagues further assert that effective use of these strategies requires regulating one's own thinking or metacognition. Comprehension is a vital component to complex thinking and a highly literate person is one who is constructing meaning all the time: before, during and after the reading process (Fontas & Pinnell, 2006).

Without the ability to comprehend and engage with text, meaning is lost. Skilled readers monitor and are aware of the comprehension processes they use to make meaning of the text they are reading (Mokhtari & Reichard, 2002). Research shows that metacognitive reading strategies or comprehension monitoring skills are important factors in reading comprehension (Baker 2008). For the purposes of this discussion metacognitive reading strategies are defined as processes that encourage students to understand and regulate their own cognitive abilities and skills (Sperling, Howard, Staley, & DuBois, 2004). As individuals engage with text, they utilize their own background knowledge and personal experiences to make sense of what they read. When background knowledge and personal experiences are not enough or when comprehension skills are not adequate, skilled readers begin to use fix-up strategies to repair their comprehension. Fix-up strategies include re-reading, looking up a word in the dictionary, and asking for help (Honig et al., 2013).

Baker (2008) found that students as they progress from grade to grade, do not always use metacognitive strategies as text becomes increasingly complex. In a report by Simpson and Nist (2000), some high school educators assume comprehension skills are adequate because students do well on projects assignments and quizzes. When, in reality those assignments and assessments are not constructed in a manner that would identify those students struggling with reading comprehension. This supports the claim by Holschuh and Paulson (2013) that an educational reality is that the literacy needs in K-12 should emphasize learning to read as well as reading to learn. In conjunction with this reality, students also need to be assessed in a manner that examines comprehension to make sure they are learning the skills and aptitudes needed to be successful strategic readers in college and beyond.

Perceptions of Learning

Despite having completed many years of school, beginning college students may lack the necessary cognitive skills and strategies to be expert learners. According to Cox (2009), learning is perceived by first year college students as memorizing and then recycling back the information on a test. While this may be somewhat true in high school, college by its very nature should be about higher order thinking and interpreting information in a variety of ways.

Armstrong and Newman (2011) found that many beginning college students view their role as passive recipients of information rather than actively constructing knowledge for themselves. Kiewra (2002) furthers this argument stating that although college students are deficient learners who frequently employ weak strategies in the classroom and have poor study habits and that more time should be spent on teaching them effective learning strategies. Hodges and Stanton (2007) found that inexperienced learners do not recognize that learning is a process that occurs over time. If students perceive learning in simplistic terms, then alternative strategies for learning will seem too demanding and complex (Simpson & Rush, 2003).

In conclusion, many college freshmen that score low on college entrance exams like the ACT or SAT may not have the highly developed reading skills necessary for understanding complex academic texts. While there may be multiple reasons like inadequate word knowledge, not knowing how to summarize, or note taking practices and the inability to think critically while reading (Jennings, Caldwell



& Lerner, 2010) certainly comprehension and the subsequent use of metacognitive reading skills has a role to play. In order to be successful academic readers and learners, Armstrong and Newman (2011) suggested students learn to direct and control their own cognitive processes when engaging with text. Holschuh and Paulson (2013) reiterated this by suggesting students must view themselves as learners who can negotiate the often complex, and multifaceted literacy demands of a college environment.

As the review of literature suggests, unskilled readers are limited in their metacognitive processes and need to perceive themselves as learners who make meaning out of reading in order to improve their reading comprehension. The lack of highly developed reading skills to understand complex text can and will hinder their success in college.

Method

The purpose of this study was to identify the comprehension strategies of college freshmen placed in a developmental reading class. To be placed in the mandatory class students must meet one of the following criteria: 1) an SAT Critical Reading score between 370 and 410; 2) an ACT Reading score between 13 and 16; 3) an Accuplacer Reading Comprehension test score between 60 and 79 (Accuplacer is an online placement and testing system that assesses student academic skills prior to entering college); or 4) after completion of a lower level developmental course.

Participants

Students enrolled in the developmental reading course in the Fall 2014 semester were invited to participate in the study. One hundred and fifty-five (N=155) students in 11 different sections of the course participated in the study.

Survey Instrument

Comprehension strategies were defined as conscious processes students use to understand and process what they read (Honig, et al., 2013). A 26 question survey was developed that incorporated a list of comprehension strategies including “monitoring comprehension, connecting to world knowledge, predicting, recognizing text structure, asking questions, constructing mental images and summarizing” (Honig et al 2013, p. 614) and from the Metacognitive Awareness of Reading Strategies Inventory (MARSİ) developed by Mokhtari and Reichard (2002). As the review of literature suggests, research has supported the importance of metacognitive awareness as a means of monitoring and promoting reading comprehension. However, there have been relatively few tools developed to assess the degree to which a student’s metacognitive awareness can be measured.

Because the MARSİ was designed as a self-reporting instrument to help students increase their awareness of their own reading strategies, its use in this study was appropriate. In addition, the MARSİ offers instructors a useful method to assess, monitor and document both the type and the number of reading strategies employed by students. The students involved in this study rated themselves on a Likert scale ranging from 1 (I never or almost never do this) to 5 (I always or almost always do this).

Results

The data revealed that 98.6 % of the participants were freshman and 3% were international students. Of the 155 students completing the survey, 63 were male (40.6%), 87 were female (56.2%) and five students (3.2%) did not record their gender. The analysis of the data revealed strategies that students



used to aid comprehension and also strategies that they did not use. Gender had a significant difference in how female students approached recreational reading as opposed to their male counterparts. Gender also played a role in how students monitored their comprehension or metacognition and what reading strategies were used while reading. The analysis of the data also showed that, for almost half of the students in the survey, the last book read was required reading as opposed to reading for pleasure.

Strategies Used While Reading

Three distinct strategies were employed by students who read text they had selected themselves. These strategies include visualizing (74%), predicting (59%), and generalizing or making connections to real-life people and events (47.7%). Seventy-six percent of students would usually to always attempt to refocus when they lost concentration while reading, and 72% re-read parts of text if they did not understand what they were reading. Sixty-four percent adjusted their reading speed and used context clues to understand the general meaning of a word.

Fifty-nine percent of the students surveyed indicated that they rarely remembered what they read, while 65% rarely questioned what they read. Ninety-one percent of the participants reported that they “sometimes to never” chose challenging material to read while 52% agreed that if the reading became difficult they wouldn’t finish reading the material. Fifty-three percent of the students did not apply metacognitive thinking skills while reading. Sixty-eight percent of the freshman students reported that they “sometimes to never” considered themselves a confident reader. Fifty percent of students reporting skipping a word when they didn’t know its meaning and 73% skimmed text before reading it, in an effort to get the general idea of what the material was about. In additional 84% “sometimes to never” reflected on what they read or thought about what they read after the fact.

Gender Differences

An independent-samples t-test using an alpha level of .05 was conducted comparing the mean response scores to survey questions of male (n = 63) and female (n = 87) students (five student did not specify gender). A statistically significant difference was found in 13 of the 26 questions (Table 1).

Table 1.
Significant Mean Response Scores by Gender

	Male (N = 63)		Female (N = 87)		<i>t</i>
	M	SD	M	SD	
I enjoy selecting material to read for pleasure	2.54	1.05	3.31	1.30	-3.89
I pick up a book, magazine, or newspaper (or an online version) when I have nothing to do	2.43	1.29	2.86	1.29	-2.03
I read what my friends or family suggest	2.48	1.20	3.02	1.23	-2.71



I try to get back on track when I lose concentration	3.87	0.73	4.17	0.81	-2.33
I talk about what I'm reading to others	2.90	1.00	3.33	1.11	-2.44
I adjust my reading speed according to what I'm reading	3.46	1.11	3.97	0.88	-3.11
I visualize what I read	3.81	1.05	4.32	1.01	-3.03
I read every day for pleasure	1.54	0.76	1.99	1.13	-2.92
While reading I make connections to my own life	2.86	1.06	3.38	1.12	-2.90
I make connections with what I am reading to the world around me	3.06	1.06	3.61	1.00	-3.21
If I come to a word I don't know, I understand the general meaning of the word by rereading or reading ahead	3.41	1.03	4.00	0.81	-3.92
I summarize what I am reading to help me remember it	3.08	1.10	3.44	1.01	-2.07
I reread parts of the material I do not understand	3.73	0.95	4.14	0.98	-2.55

Reading Habits. More female students enjoyed reading for pleasure compared to their male counterparts ($p = 0.000$) and who reported they were more likely to pick up a book, magazine or newspaper when they had nothing to do. The female students were also more likely to pick up a book, magazine, or newspaper (including an online version) when they had free time than the male students ($p = 0.044$).

Females were more likely to choose reading selections based on suggestions by friends and family members ($p = 0.007$) and they are more likely to enter into a discussion with others about what they are reading ($p = 0.016$). Although very few students reported that they read daily for pleasure, significantly higher mean scores were obtained for females ($p = 0.007$).

Monitoring Comprehension/Metacognition. Most participants reported refocusing their attention when they lost concentration while reading, with females doing so more often than males ($p = 0.021$). Female students were also more likely to reread parts of material they did not understand, adjust their reading speed to match the complexity of what they were reading, and reading ahead to get the general meaning of a word they didn't know more ($p = 0.002$).

Reading Strategies. The mean scores for female students' use of reading strategies was consistently higher than their male classmates. Thirty-five percent of the females agreed that they always or almost always visualized when they read as compared to 11% of males in the study. Female students were more likely to make connections to their own lives while reading than the male participants ($p = 0.005$) and made more connections to the world around them while reading as well ($p = 0.002$).



Even though both groups showed little tendency to use the strategy of summarizing what is read to assist in remembering the material, female students had a mean score significantly higher than male students ($p = 0.041$).

Required Reading

Of the 155 students responding to the survey, 68 students (44%) reported the last read book was one that was required for a course, 79 students (51%) reported the last read book was not required for a course and eight students (5%) did not respond. An independent-samples t-test using an alpha level of .05 was conducted comparing the mean response scores to survey questions of those that reported the last book read was one that was required for a course ($n = 68$) and those that last read a book without it being a requirement for any course ($n = 79$). There was a statistically significant difference in mean scores in six questions on the survey (Table 2).

Table 2.
Significant Mean Response Scores by Required vs. Not Required Reading

	Required (n = 68)		Not Required (n = 79)		t
	M	SD	M	SD	
I enjoy selecting material to read for pleasure	2.63	1.16	3.32	1.27	-3.42
I pick up a book, magazine, or newspaper (or an online version) when I have nothing to do	2.31	1.24	2.91	1.30	-2.87
I remember what I read	2.43	1.29	2.86	1.29	-2.03
I try to get back on track when I lose concentration	3.87	0.73	4.17	0.81	-2.33
I read what my friends or family suggest	2.50	1.20	3.03	1.26	-2.58
I like to read challenging material	2.00	0.94	2.46	1.02	-2.81
I read every day for pleasure	1.44	0.72	2.11	1.14	-4.33

Those who last read a book that was required were less likely to read for pleasure than those who last read a book of their choice ($p = 0.001$). They were also less likely to remember what they'd read when compared to those who read for pleasure ($p = 0.023$).

Students whose last book read was not required had a higher mean score when asked if they picked up a book, magazine, or newspaper (or an online version) when having free time compared to students who last read as a requirement ($p = 0.005$). When it comes to the tendency to read what friends



and family suggested, the mean score for those who last read a non-required book was significantly higher than those who last read as a requirement for a course ($p = 0.011$).

Those students who last read books that were not required for a course were more likely to read challenging materials ($p = 0.006$) and read more often for enjoyment ($p = 0.000$) than those who last read as a requirement.

Discussion

The purpose of this study was to discover what comprehension strategies college freshmen employed in a developmental reading class and what additional reading habits impact their reading ability. Since students are different in their approach to the reading process, the survey did not focus on the type of material read (fiction vs. non-fiction). The survey data suggests that most students used some metacognitive strategies like rereading and trying to get refocus attention while reading even though most reported that they did not remember what they read. Many of students in this study admitted that they were unaware of their thinking processes while reading and in addition they often did not reflect on what they had read. This supports the work of Paris and Winograd (1990), who found that inexperienced or struggling readers have limited metacognitive processes while reading. In fact, reading comprehension and the importance of metacognitive awareness have long been recognized by researchers as distinguishing factors in reading comprehension between skilled and unskilled readers (Mokhtari & Reichard, 2002).

The majority of the students in this study were consciously aware of using two comprehension strategies while reading: mental images and prediction. Although these strategies are important, additional comprehension skills may be needed to obtain an acceptable score on a college entrance exam. Proficient readers need to have many tools in their comprehension toolbox to self-regulate reading behavior and to be able to determine the effectiveness of the strategies they employ (Hock & Mellard, 2005).

Most of the students in this study reported that they challenging texts were not selected for independent reading and often not read at all. The rationale for not selecting text which was challenging could be a result of the student being unaware of their thinking processes as they were reading. Therefore, when comprehension began to break down, instead of switching to a different strategy such as summarizing or looking up a word in the dictionary, they continued to use a strategy that either didn't work or them or in some cases they just quit reading the passage all together. It is not surprising then that over half of the students in this study did not consider themselves confident readers. Confident readers as a group believe their reading ability can influence their reading behaviors, cognitive processes, reading motivation, and reading achievement (Cantrell, et al., 2013).

A majority of the students admitted to skipping a word if they didn't know what it meant. Vocabulary and comprehension are closely linked as vocabulary supports reading comprehension. For students to comprehend a text they must know what the words mean in the context given and be able to quickly decode it. According to Biemiller (2006), the presence of vocabulary knowledge and decoding skills will not guarantee a high level of reading comprehension, but the absence of *either* decoding skills or adequate vocabulary knowledge warrants a low level of reading comprehension. He goes on to say that for accomplished decoders vocabulary knowledge plays an even bigger role. If students are just decoding words for the sake of decoding words meaning is lost and comprehension is nonexistent.

Effective utilization of all other strategies relies on metacognition or knowing one's own cognitive processes (Honig, et al., 2013). The majority of students didn't ask questions of the text or



question what they read. The National Reading Panel in 2000 recognized the importance of generating questions about what is read because it engages the reader with the text. Inquisitive readers ask themselves questions and look for answers and in the process build and monitor their comprehension. According to Nist and Simpson (2000), college students are often lacking these necessary metacognitive skills that would help them be successful students.

This study also pointed to role of gender and reading. The findings show that females enjoy selecting material to read for pleasure as there was a significant difference in scores. Females would consistently pick up a book, magazine or newspaper (including an online version) when they have nothing to do compared to the males. The findings are consistent with the research that females consistently read more than their male counterparts (Sheorey & Mokhtari, 1994). Other studies found that girls reported they read more often than boys (Coles & Hall, 2002; Mullis, et al., 2007). In a study by McGeown, Goodwin, Henderson, and Wright (2012), males tend to be less motivated to read and this lack of motivation creates a barrier for academic achievement. They believed that interventions need to be in place to de-feminize literacy teaching. These interventions might include providing text with strong male role models and placing males in more masculine orientated environments to practice and development their literacy skills.

As previously stated females tended to read what family and friends suggested and more than half the females in this study talked to others about what they were reading. Females tended to use visualizations when they read and seemed more likely to make connections to their own lives and the world around them while reading. More than half of the females reported that they consistently summarized what they had read to help them remember compared to a third of the males. This corroborates a study by McGeown, Goodwin, Henderson, and Wright (2012) that found when compared to males, girls had significantly higher intrinsic reading motivation, specifically, reading efficacy and involvement in reading activity than males. Lending further support Straus (2011) found that girls' literacy practices center around social interaction. In contrast to girls Logan and Johnston (2010) found that boys preferred more active and problem-solving literacy environments.

Students were asked at the end of the survey to list the last book they read and whether it was a required reading or not. Almost half of the students in the survey said that the last book they read was required for a class which was most likely taken in high school since it was the first week of their college experience. The evidence from research shows that time spent reading is a key contributor to reading comprehension and reading success (Cunningham & Stanovich, 2003 & Guthrie, 2004, Guthrie & Wigfield, 1999). Stanovich's (1986) found that reading volume has a direct impact on vocabulary growth which in turn facilitates reading comprehension. His renowned study found that those who read well develop a large vocabulary. This in turn creates the Matthew Effect so that the more a person reads the better reader that person will become.

Reading skills and habits are shaped, in part, by the reading instruction and assessments received in K-12 classrooms. According to Gallagher (2009), there is an overemphasis of teaching reading to pass a standardized test and it is little wonder our adolescents don't develop into lifelong readers. Honig and his colleagues (2013) report four sources of reading failure: neurological factors (brain metabolism), familial factors (environment), socioeconomic factors (poverty) and instructional factors (teaching). Additionally, they reiterate that the systematic and explicit teaching of research-based literacy strategies will impact overall reading development.

A guiding vision by the National Teachers of English (NCTE) endorsed by the International Literacy Association states that students must have a chance to develop language skills so they can pursue their goals in life and become production citizens. Inadequate instruction or invalid and unreliable assessments in reading comprehension throughout the K-12 years may have played a role in how the



students in this study scored in reading on a college entrance exam. In the book *Comprehension Shouldn't Be Silent*, by Kelley & Clausen-Grace (2007), literacy practices in the middle grades were examined. Their research findings revealed how important it is to explicitly teach comprehension and metacognitive strategies and that these instructional practices lead to reading engagement which in turn would lead to reading achievement.

Zimmerman (1998) stated that some teachers and school personnel believe that high school students have mastered these critical skills because of the work and assessments they have been given in school. The ACT National Curriculum Survey (2012) found that 89% of high school teachers reported that students were “well” or “very well” prepared for college while one-fourth of the college professors and instructors surveyed reported college freshmen as being “well” or “very well” prepared. This study shows the differences between what high school teachers interpret as college readiness and what college instructors expect from incoming students. According to Flippo (2011), “the emphasis on content reading skills and strategies is often a turnoff to secondary teachers who regard the academy and the content areas they are learning and teaching in the academy to be the purpose of their learning and teaching pursuits, not the learning and acquisition or teaching of reading” (p. 398).

Conclusion

Most of the college freshman in this study appeared not to have the comprehension and metacognition skills needed to strategically engage and interact with academic texts. The students in this study who were placed in a developmental reading class because of low reading scores on the SAT or ACT taken in their junior or senior year of high school lacked the necessary literacy skills to be successful college learners.

Bacevich and Salinger's (2006) study of a highly successful statewide reading initiative prompted them to suggest that a sustained focus on reading instruction in all classes at the middle- and high-school levels is a key solution to the adolescent literacy crisis. Literacy instruction cannot be seen by teachers at these levels as a job relegated solely to English teachers, or the failed responsibility of elementary teachers who are now long-gone. It must be successfully and intensively embedded in instruction across all content areas.

Students placed in developmental reading courses at colleges and universities would benefit from explicit and systematic teaching of comprehension and metacognition strategies to understand the complex and critical text that post-secondary education requires. For the college freshman in this study, it may be imperative that they learn these skills to be successful in college and in the workforce.



References

- ACT Attainment of College and Career Readiness (2014). Retrieved from <http://www.act.org/research/policymakers/cccr14/readiness.html>
- ACT National Curriculum Survey (2012). Retrieved from <http://www.act.org/research/policymakers/pdf/NCSPolicySummary2012.pdf>
- Armstrong, S. L., & Newman, M. (2011). Teaching textual conversations: Intertextuality in the college reading classroom. *Journal of College Reading and Learning*, 41(2), 6-21.
- Attewell, P., Lavin, D., Domina, T., & Levey, T. (2006). New evidence on college remediation. *Journal of Higher Education*, 77(5), 886-924.
- Bailey, T., Jeong, D. W., & Cho, S. W. (2010). Referral, enrollment, and completion in developmental education sequences in community colleges. *Economics of Education Review*, 29(2), 255-270.
- Baker, L. (2008). Metacognition in comprehension instruction: What we've learned since NRP. In C.C. & S.R. Parris (Eds.), *Comprehension instruction: Researched-based best practices* (pp. 65-79). New York, NY: Guilford Press.
- Biemiller, A. (2006). Vocabulary development and instruction: A prerequisite for school learning. In D. K. Dickinson & S. B. Neuman (Eds.), *Handbook of early literacy research* (Vol. 2, pp. 41-51). New York, NY: Guilford Press.
- Cantrell, S. C., Correll, P., Clouse, J., Creech, K., Bridges, S., & Owens, D. (2013). Patterns of self-efficacy among college students in developmental reading. *Journal of College Reading and Learning*, 44(1), 8-34.
- Coles, M., & Hall, C. (2002). Gendered readings: Learning from children's reading choices. *Journal of Research in Reading*, 25(1): 96-108.
- Cox, R. (2009). *The college fear factor: How students and professors misunderstand one another*. Cambridge, MA: Harvard University Press.
- Cunningham, A., & Stanovich, K., E. (2003). Reading can make you smarter! *Principal*, 83(2), 34-39.
- Durkin, D. (1993). *Teaching them to read* (6th ed.). Boston, MA: Boston University Press.
- Flavell, J.H. (1979). Metacognition and cognitive monitoring: A new area of cognitive developmental inquiry. *American Psychologist*, 43(10), 906-911.
- Flippo, R. F. (2011). Transcending the divide: Where college and secondary reading and study research coincide. *Journal of Adolescent & Adult Literacy*, 54(6), 396-401.
- Fountas L., & Pinnel G. (2006). *Teaching for comprehension and fluency*. Portsmouth, NH: Heinemann.
- Gallagher, K., & Allington, R. L. (2009). *Readicide: How schools are killing reading and what you can do about it*. Stenhouse Publishers.
- Guthrie, J. T. (2004). Teaching for literacy engagement. *Journal of Literacy Research*, 36, 1-29.
- Guthrie, J. T., Wigfield, A., Metsala, J. L., & Cox, K. E. (1999). Motivational and cognitive predictors of text comprehension and reading amount. *Scientific Studies of Reading*, 3, 231-256. Hock, M., & Mellard, D. (2005). Reading comprehension strategies for adult literacy outcomes. *Journal of Adolescent & Adult Literacy*, 18(3), 192-200.
- Hodges, L. C. & Stanton, K. (2007). Translating comments on student evaluations into the language of learning. *Innovative Higher Education*, 31(5), 279-286.
- Holschuh, J. P. & Paulson, E.J. (2013). *The terrain of college developmental reading*. Executive Summary and Paper Commissioned by the College Reading and Learning Association.
- Honig, B., Diamond, L., & Gutlohn, L. (2008). *Teaching reading sourcebook* (2nd ed.). Novato, CA: Arena Press.
- Honig, B., Diamond, L., & Gutlohn, L. (2013) *Teaching reading sourcebook* (updated 2nd ed.). Novato, CA: Arena Press.
- Jennings, J., Caldwell, J., & Lerner, J. (2010). *Reading problems: Assessment and teaching strategies* (6th ed.). Boston, MA: Allyn & Bacon.
- Kiewra, K. A. (2002). How classroom teachers can help students learn and teach them how to learn. *Theory into Practice*, 41(2), 71-80.
- Lewin, T. (2005, August 17). Many going to college are not ready, report says. *The New York Times*. Retrieved from <http://www.nytimes.com>
- McGeown, S., Goodwin, H., Henderson, N., & Wright, P. (2012). Gender differences in reading motivation: Does sex or gender identity provide a better account? *Journal of Research in Reading*, 35(2), 328-336.



- Mokhtari, K., & Reichard, C. A. (2002). Assessing students' megacognitive awareness of reading strategies. *Journal of Educational Psychology, 94*(2), 249-259.
- Mokhtari, K., Reichard, C. A., & Gardner, A. (2009). The impact of Internet and television use on the reading habits and practices of college students. *Journal of Adolescent & Adult Literacy, 52*(7), 609-619.
- Mullis, I.V.S., Martin, M.O., Kennedy, A.M., & Foy, P. (2007). *PIRLS 2006 international report: IEA's progress in international reading literacy study in primary schools in 40 countries*. Chestnut Hill, MA: Boston College.
- National Center for Education Statistics. (2008). *Digest of education statistics 2007*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.
- National Assessment of Educational Progress. (2013). The Nation's report card: Trends in academic progress. Retrieved from <http://nces.ed.gov/nationsreportcard/pubs/main2012/2013456.aspx>
- National Council of Teachers of English. Retrieved from www.ncte.org/standards/ncte-ira.
- National Endowment of the Arts. (2007). *To read or not to read: A question of national consequence*. Retrieved on August 6, 2015 from <http://arts.gov/sites/default/files/ToRead.pdf>
- Nist, S. L., & Simpson, M.L. (2000). College studying. In M.L. Kamil, P.B. Mosenthal, P.D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (pp. 645-666). Mahwah, NJ: Erlbaum.
- Otterman, S. (2011, June 14). College-readiness low among state graduates, data show. *The New York Times*. Retrieved from <http://www.nytimes.com>
- Paris, Scott G., & Winograd, P. (1990). How metacognition can promote academic learning and instruction. *Dimensions of Thinking and Cognitive Instruction, 1*, 15-51.
- Pintrich, P. (2012). The role of metacognitive knowledge in learning, teaching, and assessing. In R. Hodges, M.L. Simpson, & N.A. Stahl (Eds.), *Teaching study strategies in developmental education*, (pp. 229-239). Boston, MA: Bedford/St. Martin's.
- SAT Report on College and Career Readiness. (2014). Retrieved from <https://www.collegeboard.org/program-results/2014/sat>
- Sheorey, R., & Mokhtari, K. (1994). The reading habits of developmental college students at different levels of reading proficiency. *Reading Improvement, 31*(3), 156-166.
- Simpson, M. L., & Nist, S. L. (1997). Perspectives on learning history: A case study. *Journal of Literacy Research, 29*(3), 363-395.
- Simpson, M.L., & Nist, S. L. (2000). An update on strategic learning: It's more than textbook reading strategies. *Journal of Adolescent & Adult Literacy, 43*(6), 528-541.
- Simpson, M. L., & Rush, L. (2003). College students' beliefs, strategy employment, transfer, and academic performance: An examination across three academic disciplines. *Journal of College Reading and Learning, 33*(2), 146-156.
- Smith, M. (2012, August 4). Struggling for students' readiness. *The New York Times*. Retrieved from <http://www.nytimes.com>
- Sperling, R. A., Howard, B. C., Staley, R., & DuBois, N. (2004). Metacognition and self-regulated learning constructs. *Educational Research and Evaluation, 10*(2), 117-139.
- Stanovich, K. E. (1986). Matthew effect in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, XXI*(4), 360-406.
- Temple, C., Ogle, D., Crawford, A., & Freppon, P. (2014). *All children read: Teaching for literacy in today's diverse classrooms* (4th ed.). Upper Saddle River, NJ: Pearson.
- Tompkins, G. (2014). *Literacy for the 21st century: A balanced approach* (6th ed.). Upper Saddle River, NJ: Pearson.
- Tierney, R. J. (1990). Redefining reading comprehension. *Educational Leadership* Retrieved from http://www.ascd.com/ASCD/pdf/journals/ed_lead/el_199003_tierney.pdf
- Vandal, B. (2010). Getting past go: Rebuilding the remedial education bridge to college success. Denver, CO: Education Commission of the States.
- Zimmerman, B. J. (1998). Academic studying and the development of personal skills: A self-regulatory perspective. *Educational Psychologist, 33*(2/3), 73-86.



APPENDIX A

Strategies Used While Reading

Reading Strategy	Mean	SD	Percentage of frequency as usually, almost always to always
I try to get back on track when I lose concentration.	4.05	0.79	76.1
I visualize while I read.	4.07	1.08	74.2
I reread parts of the text/book I don't understand or if I lose concentration.	3.97	0.99	72.3
I adjust my reading speed according to what I'm reading.	3.77	1.01	64.5
If I come to a word I don't know, I often understand the general meaning of the word by rereading or reading ahead.	3.75	0.96	64.5
I think about what I already know to help me understand what I read.	3.64	1.05	59.4
I often predict the outcome of the story/text before I am through reading.	3.51	1.10	51.9
When I read, I use mental imagery (make pictures in my mind).	4.27	1.84	50.0
I often make connections with what I am reading to the world around me.	3.37	1.07	47.7
I am aware of my thinking when I am reading.	3.40	0.95	46.8
I often summarize what I am reading to help remember it.	3.26	1.08	43.2
I always remember what I read.	3.32	0.84	41.3
While reading I make connections to my own life.	3.15	1.12	40.0
I generalize what I am reading to real-life people and events.	3.25	1.16	38.7
I talk about what I am reading to others.	3.14	1.08	35.5
I often have questions about the content that I am reading.	3.25	0.83	34.4
I enjoy reading and selecting texts/books to read for pleasure.	2.99	1.24	32.9
I often read what my friends or family suggest.	2.79	1.25	31.0
I consider myself a confident reader.	3.00	1.04	29.9
I often pick up a book, magazine, or newspaper (or an online version) when I have nothing to do.	2.65	1.30	27.9
I look over a text/book and skim for the general idea of the context before I read it.	2.72	1.22	27.1
If the reading becomes difficult, I won't finish what I am reading.	2.65	1.13	25.2
When I come to a word I don't know, I just skip it.	2.57	1.20	21.3
I often reflect on what I am reading or think about it during the day.	2.54	1.02	15.5
I like to read challenging texts/books.	2.21	1.01	8.4
I read every day for pleasure.	1.79	1.00	7.7