

Which Literacy Interventions Work for Adolescents that Continue to Struggle  
with Reading in High School and How Will they be Provided?

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**Abstract**

This is a literature review of studies and articles surrounding the issue of literacy strategies for adolescents in high school who continue to struggle with reading. It is also a review of research about where literacy interventions should take place and what obstacles may keep the strategies from either being effective or serving the best purpose of the learner. Finding enough studies that specifically analyze strategies that work best for adolescents in high school was problematic in that most studies have targeted middle school level students. Those studies that have targeted high school students often also included middle school students. Studies have concluded that: (a) Students require literacy intervention strategies throughout high school, (b) Continued years of reading struggles are a factor in student motivation to keep reading, (c) Literacy interventions work best when they are taught in the core subjects where students read to learn increasingly difficult content-driven text, (d) Core subject teachers tend to teach alternative modes of viewing core material rather than targeting literacy, and (e) Schools need to make literacy instruction a higher priority in core subjects by providing professional development opportunities for content teachers to learn how to teach literacy and supporting the need for class time dedicated to implementing strategies.

### **Which Literacy Interventions Work for Adolescents that Continue to Struggle with Reading in High School and How Will they be Provided?**

As children who struggle with reading, grow into adolescents who continue to struggle, strategies to assist in comprehension of increasingly complex content textbooks need to commensurate with the need. Students need support in the classroom where the struggle takes place. Students need literacy interventions in their core subject classrooms.

Students must practice reading to improve literacy yet as they get older and textbooks get more difficult, adolescents continue to struggle and their motivation to read becomes a factor. To minimize potentially embarrassing situations that might point out their reading challenge, students may avoid reading, both in and out of school. Avoidance to read eventually results in even greater challenges (Morgan & Fuchs, 2007). The Department of Education, National Center for Education Statistics (2006) reports that more than a quarter of all students in grades 8 through 12 do not meet the minimum standards for basic reading ability. According to Jacobs, Snow, Martin and Berman (2008), "Half of students that leave high school are unprepared for daily reading tasks - in banking, in their jobs, in health-related activities, and in general citizenship." There is evidence that positively associates literacy attainment with lower unemployment rates, greater lifetime earnings, larger community contributions, better overall health, longer life expectancy, less dependence on welfare, and lower rates of incarceration (Darling-Hammond, 2007; Muennig, 2005). While there is some evidence that adolescent motivation to read may be positively impacted by allowing students more choice in reading materials, most core subjects are taught using content driven, informational texts, allowing little flexibility. This is mainly due to the amount of content that teachers need to cover in order to meet pacing guides and state standards. Student reading needs vary greatly by the width of the gap between current reading

level and grade reading level therefore the amount of time necessary to spend on interventions must increase. There is a growing body of research focused on methods of instruction to best support adolescent struggling readers (Scammacca, Roberts, Vaughn, Edmonds, Wexler, Reutebuch, and Torgesen, 2007). The point of this review is to look at studies that research what is known about specific types of strategies that work best, and how and where interventions need to be provided.

### **Selection of review material**

In order to select which research to review, only peer reviewed journals with studies dated within the last five years, were used as selection criteria. Several databases were accessed, using the internet, and most were through the Sullivan Library at Chaminade University, using keyword searches, to ensure that as many studies were reviewed as possible. Specific characteristics needed to be present such as high validity of instruments and, where applicable, close matching of treatment, and control groups. Protocol for standards of evidence were selected using Galvan's criteria (2009) and the What Works Clearinghouse (2010). Five studies either met or closely met the preferred criteria.

### **Studies Reviewed**

In the first quantitative study, there were two components. The first included a whole school model that involved professional development literacy skills training for all content teachers and the second measured the impact of specific reading interventions on adolescents from two age groups, grades 6, and 9 (Cantrell, Almasi, Carter, Rintamaa, & Madden, 2010). Students were chosen randomly from a narrowed group who pretested at least two grade-levels lower than current grade level in reading. Post-tests were used to measure improvement. Although the study used one age group that did not fit the high school adolescent criteria, the

large contrast between results between the two age groups was significant and worth further attention. It was hypothesized that adolescents at different ages might respond to interventions differently. The treatment in the study was an intervention program of specific reading strategies called Learning Strategies Curriculum (SLC), first introduced by the University of Kansas Center on Research for Learning (Tralli, Colombo, Deshler & Shumacker, 1996), that involved targeting specific skills for developing a text-base for comprehension and building on this with models for making inferences, paraphrasing, visualizing, decoding and vocabulary. In addition to measuring the impact of the proposed interventions, researchers also sought student perceptions of their personal use of strategies and whether the students believed the strategies assisted in their comprehension of reading. Teachers invited to implement the strategies were also selected at random and all teachers were trained in specific literacy strategies. The authors theorized that there are major components related to a students' capacity for reading that include multiple levels of comprehension and the ability to construct meaning from prior experiences in order to elaborate, and make inferences. Further, the authors suggest that students construct meaning from past experience by way of paraphrasing, visualizing and questioning. Finally, the authors contend that reading comprehension is a developmental process that occurs across the lifespan, therefore age may impact the way adolescents respond to certain strategies. As students go through higher grades they may face greater struggles to comprehend increasingly complex content text. As a result, the gap between current reading level and grade level continue to widen, and students may believe they will never close the gap, leaving them less motivated. In this study there was a marked difference in improvement between the two age groups. Students in the 6th grade had the greatest reading improvement while those in the 9th grade had no improvement and in fact regressed in some areas. The authors concluded that past reading

achievement and more years of failure may play a large role in adolescents' motivation and their perception on the effectiveness of reading strategies. The results of this study reflect that strategies targeted to the specific needs of the student are required. As students get into higher grades and continue to struggle the amount of time spent on interventions needs to increase.

While this study measured one age group that did not fit the original criteria for this review, it used randomized testing of a large group of students, used both pretests and post-tests and participants were consulted on the results. Further, part of the hypothesis was that students at different ages may respond differently to varying strategies and in this case they did, though it could be argued that students, and teachers were selected from only one state in the southern United States. It might also be argued that a different demographic might show different results. Strategies were supported by other leaders in the field as they were based on a construction-integration model (Wharton & Kintsh, 1991).

A team of researchers did a study to determine the effects of a mini-course, offered at two high schools (Schumaker, Deshler, Woodruff, Hock, Bullgren & Lenz, 2006) that would provide reading interventions to help close a widening gap between reading level and grade level of adolescents that were at-risk of dropping out of school due to continued failure. For the purposes of this study, at-risk was defined as applying to those students that fail at least one course per semester. Researchers tracked records showing that gaps between reading level and grade level increase at a faster rate once adolescents reach the seventh grade. By the time students are in high school many are several reading levels lower than their grade and interventions become more critical. The authors wanted to research ways to close the gap quickly, bringing students' reading up with grade level in order for them to comprehend increasingly difficult content textbooks. At the experimental school, in addition to pretests and post-tests, a specific

intervention was taught using the word identification strategy. Students listened to required steps in a trial strategy and received instruction on how to use the steps, and this is followed by both the instructor demonstrating the steps, and thinking aloud, with students, while he or she uses the steps to dissect several unfamiliar words. Next, the students learn to say the names of the steps out loud to help them instruct themselves on what they need to do as they use the strategies. They follow this by practicing the steps and strategies with reading material at their reading level. As they master the steps and strategies the material reading levels increase until they are adept at using the steps, and strategies at grade level. Then they move on to using the steps and strategies for various course content textbooks, and for other things, outside of school. Students in the comparison school were matched to the treatment school by age, gender, ethnicity and pretest decoding scores. Students in the comparison school received traditional reading strategies in their English language arts classes. Over the course of one school year, students in the treatment group, which also included students with learning disabilities, had reading scores climb by an average of 3.4 grade levels in decoding skills. Every student in the treatment group had scores go up by at least one grade level. Comparison group scores rose by .2 percent of one grade level. After the treatment group finished with that strategy they went on to another focused series of strategies, including one for visual imagery (Schumaker, Deshler, Zemitich & Warner, 1993) and one for self-questioning (Schumaker, Deshler, Nolan & Alley, 1994). Two more strategies followed. A total of 27 students in the treatment group participated each day for one hour for one semester, learning specifically focused strategies. While the series of strategies constitute a packaged product, they have been developed by highly regarded researchers and there is some evidence that interventions that focus, singly, on specific comprehension strategies, may work to help close the gaps. Due to promising results researchers are working on

developing year-long high school courses that would concentrate on these specific strategies.

Yet, questions remain. While all students benefit from focused instruction, additional research is necessary to determine if this focused course of strategies can really close the achievement gap of adolescents who continue to struggle with reading. Specifics on the types of learning disabilities that were being addressed, demographics on students and locations as well as information on what type of training the teachers had that taught the classes require clarification. Also missing from the study was information on how many students were invited to participate versus who actually participated and if results were discussed with all participants.

Another study, by two researchers (Cantrell and Carter, 2009), focuses on how adolescents use reading strategies differently based upon their needs and the level of comprehension needed. The hypothesis of this study is that middle and secondary student's reading success could be raised through specific comprehension instruction that aims at providing students with strategies that show students how to become aware of their own comprehension processes. As students become more aware of their comprehension processes they begin to use them at will. Also reviewed in this study, though minimally, is how age and gender may play a role in the use of strategies. While those two characteristics were not chosen specifically for this review, they are worth mentioning as they do impact adolescent use of strategies. This study used a cross-sectional, causal-comparative design to look at relationships among specific characteristics of readers and their perceived use of strategies. Specifically, the authors sought to discover the differences in how students report different strategy use and when, and how they shift strategies. Also researched was how age and gender affected strategy use, and finally, the extent to which both surface-level, and deep-level strategies are used. Surface-level strategies were defined as those used when students first pick up a text and decide how fast they

can read it, and what words they can omit, whereas deep-level strategies are those used to make mental images, and incur deeper understanding by making comparisons, and questioning sources. Participants were all sixth and ninth grade students at seven schools in a southeastern U.S. state. Data was gathered from 216 sixth graders and 816 ninth graders during the first year of the study, and 334 sixth graders, and 754 ninth graders during the second year, for a combined total of 550 sixth graders, and 1570 ninth graders. There were 243 sixth grade boys and 743 ninth grade boys, 277 sixth grade girls, and 824 ninth grade girls used in the study. Included were one urban, four suburban and two rural schools. Demographics were widely ranged with 26% to 69% having free or reduced lunches and 25% to less than one percent minorities. Specific ethnicities were not included in the findings. All students received both pretests and post-tests. The first set of analyses were analyzed in models including three subscales: (a) Support, global and problem-solving (dependent variables) (b) Gender and grade (fixed effects), and (c) Reading achievement (continuous covariate in one model and mixed effect in the second). Students were further categorized into three groups according to reading achievements of low, medium and high. The second set of analyses looked at the depth of strategic process relative to age, gender and achievement. Results showed the relationships among adolescents' perceived strategy use and learner characteristics. It was found that though readers with higher reading scores more readily used the global and problem-solving strategies, and poorer readers used more support strategies there was no difference in students' reported use of any strategies for support. Girls reported using strategies three times as often as boys and older students used strategies more often than younger but the effect size was very small. Interestingly, there were mixed results including some which showed that in this study surface-level reading strategies were identified by students as being more helpful to attain higher reading achievements than deeper-level strategies.

While the intent of this study was to determine the levels of strategies used along with how students perceive their required use of strategies there were mixed results. The authors planned the study very carefully and they used both pretests and post-tests. All students at the schools participated so selection was not affected, however further demographics could have shown other trends and concentrating the studies in one part of the country might affect the outcome. Further, there could be some question as to the effectiveness of the types of tests that were used for both pretests and post-tests, and there was no indication if all students were actually present on the day of the tests.

In the next study, done by one individual, that explored strategies used in both middle and high schools, to support struggling readers in core subject classrooms, the author aimed at understanding how content teachers make decisions on what constitutes support, and how teachers decide who needs the support (Ness, 2008). Two schools were selected that shared similar campuses and demographics. Both schools were located in rural Virginia. One was a middle school and the other a high school. At the middle school 25% of the students qualified for free lunches, 1.7% of the students spoke English as a second language and 40% of all students were reading below grade level. At the high school, 15% of the students received free lunch, 1% of the students spoke English as a second language and 20% of all students were reading below grade level. While the middle school portion of the research did not fit the original search criteria the importance of the study is evident. Four hundred and thirty students from grades six through eight and 782 students were in grades nine through twelve. Done in two phases and using data that was collected for part of a larger project that researched the frequency of reading comprehension instruction in content classrooms (Ness, 2006), the author of this study consulted with, referenced, and used prior techniques from several colleagues, and other outside experts in

the field. The author also consulted with all participants both during and following analysis to gain perspective on what the participants thought of the final interpretation. The first phase had a two-fold purpose: (a) To discover how much middle and high school teachers were incorporating reading comprehension strategies in their science and social studies content courses, and (b) What teacher attitudes were about how useful they thought teaching reading comprehension was and how needed they felt it was overall. The second phase re-examined the data from phase I and added a question to be asked of content teachers: How do teachers assist students who struggle with reading? All interviews were audio recorded and each teacher participant confirmed transcripts following each. Research was conducted using a stratified purposeful sampling approach that invited twenty three secondary science and social studies teachers, contacted by letter and e-mail, to participate in the study. Ten teachers agreed to participate and using purposeful sampling eight total participants were included. Teacher instructional strategies were observed and assessed by way of 2400 minutes of direct classroom observation. To gauge direct comprehensive instruction, the author measured the amount of time spent on: (a) Comprehension monitoring by student, (b) Cooperative learning where students work together to improve reading strategies, (c) Use of graphic and semantic organizers to gain meaning, (d) Story structure where readers ask who, what, where, why, how and map characters and events, (e) Question and answer time when teachers ask students specific questions about story or text events and students respond followed by teacher feedback, (f) Student question generation on predictions, inferences about what may happen next, (g) Summarizing, when students attempt to pull the ideas from a reading together, and (h) Multiple-strategy-instruction, when teacher and student use multiple ways to construct meaning from text using strategies that best fit each specific learner. Based on the minutes of observation, the author concluded that most teachers of

middle and high-school students, to support struggling classroom students in core subjects, rely on multiple presentations of information, alternative sources of text, and heterogenous grouping to assist struggling readers in lieu of teaching methods that provide direct comprehension instruction. The author's analysis (Ness, 2008) bore striking similarity to previous studies by Deshler, Schumaker, Lenz, Bulgren, Hock, Knight, et al. (2001), which showed that content teachers use strategies mainly to convey content material and may have little if any experience teaching reading comprehension strategies. In that study, which included observations in eight classrooms, teachers were mostly conveyors of information via lectures and presentations and classes were largely teacher-dominated. While multiple forms of text were used to present material, interventions were aimed at providing content rather than explicit comprehension strategies. When heterogeneous groupings were used in the classrooms, struggling students, seated next to peers, mostly copied work and teachers did not circulate the room to check on groups or offer instruction on reading strategies. Later, during interviews, teachers commented on being aware of particular students that struggled with reading. Teachers cited time restrictions, pressure to teach content for state testing, benchmarks/pacing speed necessity as reasons for their classroom methods. They also cited their lack of confidence in their training on teaching literacy and the need to teach their specific content because that was what they knew, and were hired to teach.

While this study evaluated both middle and high school teacher usage of reading comprehension strategies in the classroom, it provided relevant insight into teacher perceptions of appropriate instruction. A stratified purposeful sampling and a large number of participants was used for this study, and results were re-examined, and shared with participants. Both pretests and post-tests were used to measure results. Teachers had advance notice of classroom

observations which could be shown to impact instruction. Students were aware of observation and may have responded in ways that could impact the study. The study was limited to two schools, both located in rural Virginia, therefore environment could impact the study. The level of training and prior experience of teachers using strategies might be factors to consider.

The final study selected for review was an adaptation from a previous body of research. A team of researchers adapted the Motivation to Read Profiles (MRP, Palmer, Codling & Mazzoni, 1996) which was originally designed for early readers, to assess the needs of adolescents (Pitcher, Albright, DeLaney, Walker., Seunarinisingh, Mogge, Headley, Ridgeway, Peck, Hunt, & Dunston, 2007). The purpose of the study was to determine what motivates adolescents to read. For this research 384 students were randomly surveyed, from a cross-section of regions in the United States and the Caribbean. Demographics of the study included 22% African-American, 37% Caucasian, 30% Afro/Indo/Trin (from Trinidad and Tobago) and 10% that identified themselves as either Hispanic or other. Adolescents surveyed ranged from grades 6 - 12, with 21% of the sample coming from students in grades 11 and 12. The survey was group-administered and included 20 items on a four-point scale that assessed the self-concept of readers, and the value they placed on reading. In addition to the surveys, 100 adolescents were interviewed, from same age population, using 14 open-ended, scripted items about their reading preferences and needs. The results reflected that students, regardless of age or ethnicity, appear more motivated to read if they are able to choose their reading materials.

While this study used a wide range of demographics and used both surveys, and interviews, information is lacking regarding how many students were asked to participate versus how many actually did. Further, it is unknown if surveys were provided in an alternate language or if participants were consulted on the results. Lastly, no information was added about possible

learning challenges of the participants which could affect the outcome.

### **Discussion and Conclusion**

All of the studies presented in this review reflect results that show that adolescents who continue to struggle with reading, into their high school years, need interventions that are commensurate with their need. While the types and levels of intervention necessary can vary based on the size of the gap between a students' reading, and grade level, and other contributing factors such as the presence of a learning disability, the need gets greater every year a student is in school. Students need literacy skills whether they plan for higher education or to be contributing members in their own communities.

The core classroom is where students need the ability to shift from simple word recognition to complex comprehension of content text (Biancarosa & Snow, 2006). Strategies need to target the varying and specific needs of struggling students to assist with the shift to more complex content. In order for students to receive an adequate amount of literacy interventions, literacy may need to be taught in every core classroom. Adolescents need to be kept motivated to read so they will get the practice they need to improve. Additional studies are needed to research new ways to achieve motivation in struggling readers because even though some studies show that having more choice in reading material may assist in reading motivation, most content classes use textbooks and can offer little such choice. Studies reveal that core content teachers mainly use differing modes of presentation to help struggling students and rarely teach specific literacy skills. Teachers feel pressured to meet demands for benchmark pacing and test schedules, and to meet requirements they rely on varying presentation of content material in lieu of teaching literacy. Teachers need the support of school administrators to be provided enough ongoing professional development on targeted literacy strategies and to be given classroom time

to implement the strategies. Schools must make literacy their top priority and ensure that this priority is reflected in the classroom. School administrators must ensure they are not pressuring classroom teachers into sacrificing literacy in place of meeting benchmark and testing deadlines.

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