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## **Abstract**

Introduction: Almost seven thousand students drop out of high school every day (Alliance for Excellent Education, 2010b). It is estimated that one in ten high schools in the United States is considered a “dropout factory” – a term given to a high school where no more than 60% of the students who begin attending the school as freshman complete their senior year (Zuckerbrod, 2007).

## **Literacy, the Graduation Rate, and Economic Development: How the Vaccination Approach to Literacy Instruction Impacts the Economy of Kansas and the Nation**

**Carolyn L. Carlson**  
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### *Introduction*

Almost seven thousand students drop out of high school every day (Alliance for Excellent Education, 2010b). It is estimated that one in ten high schools in the United States is considered a “dropout factory” – a term given to a high school where no more than 60% of the students who begin attending the school as freshman complete their senior year (Zuckerbrod, 2007). The most common reason these students drop out of high school is that their poor literacy skills prevent them from keeping up with the increasingly demanding high school curriculum (Allington, 1994; Biancarosa & Snow, 2004; Kamil, 2003; Snow & Biancarosa, 2003). To combat this, it is necessary to address the students’ poor literacy skills. However, there is an “astonishingly low” number of reading specialists serving at the high school level (Carlson, 2011), leaving many students struggling with their coursework and eventually dropping out. Due to the large number of students who fail to complete high school, there are an estimated 1.3 million students who should have earned a diploma with the Class of 2010, but dropped out before doing so (Alliance for Excellent Education, 2011). “By dropping out, these individuals significantly diminish their chances to secure a good job and a promising future” (Alliance for Excellent Education, 2010b, p.1). If the students who dropped out of the Class of 2011 had graduated, the nation’s economy would likely benefit from nearly \$154 billion in additional income over the course of their lives (Alliance for Excellent Education, 2011). The loss of earnings for the approximately 9,100 students in Kansas that did not graduate as scheduled in 2011 is \$953 million over the course of their lifetimes (Alliance for Excellent Education, 2011). Therefore, the lack of support for those students who struggle with literacy skills past the 8<sup>th</sup> grade is a contributing factor to the dropout rate and the negative impact on the nation’s economy and the economy of the state of Kansas.

### *The Importance of Effective Literacy Instruction*

Adolescents entering the adult world in this era will need to read and write more than any other time in human history (Moore, Bean, Birdyshaw, & Rycik, 1999). Despite this assertion, Kamil (2003) notes that there are approximately 8.7 million fourth through twelfth graders in the United States who are unable to read and comprehend the material in their textbooks. This is partly due to the mindset that if basic literacy skills are taught to students in the elementary grades, students will be able to successfully read any text. This “vaccination” approach to literacy instruction that relies on the early teaching of literacy to provide students with the necessary skills to succeed is ineffective (Shanahan & Shanahan, 2008). Early learning gains disappear by the time the students

reach the eighth grade rather than moving the students toward advanced literacy achievement (Perle, Grigg, & Donahue, 2005). This has a negative impact on high school graduates who must possess sufficient literacy skills to meet the needs of today's workforce. Those basic literacy skills taught in the early years of schooling must be built upon throughout the remainder of students' time in school. In their position statement on adolescent literacy, Moore et al. (1999) stated:

Emphasizing the achievement of early readers has not produced adolescents who read and write at high levels of proficiency. Adolescents deserve increased levels of governmental support. This includes appropriate funding for intervention services in the upper grades (p. 9).

Despite the clear need for strong literacy skills, many students do not receive sufficient instruction in this area. According to the 2009 National Assessment of Educational Progress (NAEP) in reading, only about 30 percent of entering high school freshman read proficiently (NCES, 2009), which means that as the material in the textbooks becomes more challenging, those students who struggle with literacy drop even further behind. In addition, only 32 percent of students nationwide in the 8<sup>th</sup> grade scored at or above the level of "proficient" on the NAEP in reading in 2011 (NCES, 2011b). In the state of Kansas, 64% of Kansas 8<sup>th</sup> graders scored below grade level (NCES, 2011b). Among those 8<sup>th</sup> graders, 81% of Hispanic students and 85% of Black students scored below grade level on the NAEP in reading in 2011 (NCES, 2011b). As a result of their poor literacy skills, many of these struggling students drop out of school. Rotermund (2007) examined survey results from dropouts across the country and found that 32 percent of 10<sup>th</sup> grade students who dropped out in 2002 did so because they could not keep up with the schoolwork and 38 percent cited failing grades as their reason for dropping out. Literacy is a key area that impacts the decision to drop out of or remain in school.

Without a strong set of literacy skills, students will be unable to compete for the most desirable jobs in the country. In fact, thousands of workers from other countries enter the United States each year to fill positions as managers, engineers, etc. that the United States is unable to fill due to the lack of knowledge and skills of many American workers (Mitchell, Carnes, & Mendosa, 2006). Reder (2010) found a strong relationship between literacy proficiency and the earnings of high school dropouts. Further, Reder (2010) found that literacy skills not only impact initial earnings in high school dropouts, but the rate of growth of future earnings. This supports the conclusion that literacy skills are essential for future success.

Therefore, it is crucial that literacy instruction remain intense throughout all grade levels rather than easing up (or disappearing) as students progress through the upper grades. Without strong literacy skills, students are less likely to be able to compete for jobs and are more likely to simply drop out of high school before graduating. However, the literacy needs of adolescents have been given significantly less attention than the literacy needs of younger children. In their position statement on adolescent literacy, Moore, et al. (1999) stated:

Adolescents are being short-changed. No one is giving adolescent literacy much press. It is certainly not a hot topic in educational policy or a priority in schools. In the United States, most Title I budgets are allocated for early intervention – little is left over for the struggling adolescent reader (p. 1).

According to the Alliance for Excellent Education's (2005) publication on adolescent literacy, there are millions of high school students struggling with their reading skills long after they leave the third grade. Despite the limited number of secondary students with proficient reading skills, the majority of secondary schools in the United States do not provide systematic literacy support in content area classrooms or additional support for struggling adolescent readers (Sturtevant, 2003). As noted in *Every Child A Graduate* (Joftus, 2002):

Research shows...that students who receive intensive, focused literacy instruction and tutoring will graduate from high school and attend college in significantly greater numbers than those not receiving such attention. Despite these findings, few...high schools have a comprehensive approach to teaching literacy across the curriculum (p. 3).

Despite the need for reading specialists at the secondary level, little support is given to struggling adolescent readers. Many students “are not given the extra support they need to make a successful transition to high school and are lost in ninth grade” (Alliance for Excellent Education, 2010b, p. 2). Rather, reading instruction is found mainly in the elementary grades, leaving thousands of secondary students to continue to struggle with their literacy skills.

During the 1990s, the International Reading Association recommended that the number of secondary reading specialists increase (Long, 1995). However, rather than an increase in the number of reading specialists as a response to the recommendations of the International Reading Association, the number of reading specialists beyond the elementary grades declined. Reading specialists at the secondary level were often the first positions to be eliminated from a school district's budget, leaving Vacca (1998) to refer to reading specialists at the secondary level as “endangered species” (p.609).

Moore et al. (1999) noted the neglect of the literacy needs of adolescent readers:

Despite the prevalence of literacy in adolescents' lives, educational policies, school curricula, and the public currently are neglecting it. For instance, state and federal funding for middle and high school reading programs in the United States has decreased. Fewer and fewer schools are able to hire reading specialists who work with individual students and help teachers of all subjects be more effective teachers of reading (p.3).

Santa (2000) also noted the decrease in reading specialists beyond the elementary grades:

Ten years ago, we had reading specialists at the middle school and high school levels. They collaborated with teachers to fulfill a mission of assisting all content teachers in implementing reading strategies in the classroom. They worked side-by-side with science and mathematics teachers. They facilitated classroom

research, investigating issues of reading, writing, and learning. ...But when funding shrank, the reading specialists were the first to go.... Reading specialists, especially at these levels, have become viewed as expendable luxuries (p.1).

During the late 1990s, results of reading test scores indicated that many children and adolescents were not developing into proficient readers. Despite the attempts of the government to improve the reading instruction for all students, much of the attention has been focused on the needs of early readers, supporting the “vaccination” approach to literacy instruction. Farber (1999) noted that while funds are poured into programs for elementary school children, governments fail to fund many programs for secondary students. Further, she notes that government leaders mistakenly believe that reading develops automatically once the reader masters the fundamentals. The reality is that while many high school students are able to read the words on a page, many are unable to fully comprehend the text. They lack the skills to read critically by summarizing, drawing conclusions, or relating the information to their own prior knowledge. Therefore, it is essential that these students receive effective instruction to develop their literacy skills. However, Carlson (2011) found that less than one percent (.15 percent) of the nation’s public school teachers at the secondary level worked as reading specialists. A study done by Bean, Cassidy, Grumet, Shelton, and Wallis (2002) surveyed reading specialists from across the United States and found that of the respondents, only 8% worked at the high school level.

While there is a need for strong literacy skills, students at the secondary level do not always receive the additional support that is necessary for academic success. The lack of strong literacy skills plays a role in the decision of many struggling students to remain in or drop out of school. Therefore, it is essential that literacy instruction at the secondary level be given the same amount of attention as it typically is in the elementary grades.

### ***Dropout Rates in the Nation and the State of Kansas***

Among developed countries, the United States ranks 21<sup>st</sup> in high school graduation rates (Alliance for Excellent Education, 2011d). The lack of literacy skills needed to be successful as students progress through school is one factor contributing to the increasing dropout rate in the United States.

The following statistics on students who fail to graduate from high school highlight this ongoing problem:

- Every school day, nearly 7,000 students become dropouts. Annually, that adds up to about 1.2 million students who will not graduate from high school with their peers as scheduled (Alliance for Excellent Education, 2010b).
- An estimated 25 percent of public school students who entered the high school in the fall of 2000 failed to earn a diploma four years later in 2003-04 (Laird, Kienzi, DeBell, & Chapman, 2007).
- In Kansas, 12 of the state’s high schools are considered “dropout factories” (Alliance for Excellent Education, 2011b).

- Approximately 2,000 high schools (about 12 percent), known as the nation's lowest performing high schools, produce nearly half of the nation's dropouts. In these schools, the number of seniors enrolled is routinely 60 percent or less than the number of freshman three years earlier (Tucci, 2010).
- In Kansas, 30 percent of high school students in the Wichita area do not graduate on time with a regular diploma (Alliance for Excellent Education, 2010a).
- Low attendance or a failing grade can identify future dropouts, and in some cases as early as sixth grade (Jerald, 2006).
- Up to 40 percent of 9<sup>th</sup> grade students in cities with the highest dropout rates repeat ninth grade; only 10 to 15 percent of those repeaters go on to graduate (Balfanz & Legters, 2006).
- Ninth grade serves as a bottleneck for many students who begin their first year only to find that their academic skills are insufficient for high school-level work. Unfortunately, many students are not given the extra support they need to make a successful transition to high school and are lost in ninth grade (Balfanz & Legters, 2006).
- The total number of high school graduates is projected to decrease three percent between the thirteen year period between 2007-2008 and 2020-2021 (NCES, 2011b).

Both in the state of Kansas and across the nation, students are dropping out of high school at unacceptable levels. Among other reasons, the lack of literacy skills and lack of specialized support in this area leads many students to choose the path of dropping out rather than remaining in school to earn diplomas with their peers.

### ***The Impact of the Dropout Rate on the Economy***

The 7,000 students who drop out of high school each day leave the environment of the school and enter the community as workers with often inadequate literacy skills. In Kansas, 25 percent of students do not graduate on time with a regular diploma (Alliance for Excellent Education, 2011b). This has a detrimental impact on the economy in the nation and in the state of Kansas. Not only do high school dropouts tend to earn less and contribute less, but they also tend to cost more in expenses.

### ***Earning Less, Contributing Less, and Costing More***

Lower local, state, and national earnings are a consequence of the high dropout rate. The unemployment rate among high school dropouts is three times higher than those holding a bachelor's degree (Alliance for Excellent Education, 2011c). In 2012, the unemployment rate for high school dropouts (age 25 and older) was 12.4%, but was only 8.3% for individuals who earned a regular high school diploma but did not attend college (U.S. Department of Labor, 2013). Further, individuals without a high school diploma that are able to secure a job earn less than their peers with diplomas. For example, the average annual income for a high school dropout in the United States is \$7,800 less than the average annual income for individuals earning a high school diploma (Alliance for Excellent Education, 2011d). Further, a high school dropout in Kansas earns

approximately \$6,500 less per year than a high school graduate (Alliance for Excellent Education, 2011b). From 2006-2008, high school dropouts were twice as likely to be living in poverty as high school graduates (Reder, 2010). The combination of higher unemployment among high school dropouts and those who are employed earning significantly less than high school graduates has a negative impact on the economy. If the students who dropped out of the Class of 2011 had graduated, the nation's economy would likely benefit from nearly \$154 billion in additional income over the course of their lifetimes (Alliance for Excellent Education, 2011d).

Lower local, state, and national tax revenues are a consequence of the high dropout rate. A high school dropout contributes about \$60,000 less in taxes over his/her lifetime (Alliance for Excellent Education, 2006a). Even one "class" of dropouts has a significant impact on the economy. If half of the students who dropped out of the Class of 2011 had earned a diploma, the state of Kansas would have seen a \$4 million increase in annual state tax revenue (Alliance for Excellent Education, 2012). If half of the students who dropped out of the Class of 2008 in the Wichita area had graduated, the increase in wages and spending would have grown the state and local tax revenues by \$2 million during an average year (Alliance for Excellent Education, 2010a).

Lower local, state, and national spending is a consequence of the high dropout rate. If just half of the students who dropped out of in the Class of 2010 in Kansas had graduated, the state would have benefitted from an increase of \$80 million in home sales and \$5 million in auto sales (Alliance for Excellent Education, 2011b). In the Wichita area, reducing the number of dropouts in the Class of 2008 would have resulted in an increase of \$8 million in spending and \$3 million in investing during an average year (Alliance for Excellent Education, 2010a). Unless high schools are able to graduate their students at higher rates, nearly 12 million students will likely drop out over the next decade, resulting in a loss to the nation of \$1.5 trillion. (Alliance for Excellent Education, 2011d).

Higher local, state, and national costs are a consequence of the high dropout rate. Each dropout, over his/her lifetime costs the nation approximately \$260,000 (Amos, 2008). These costs include government health care, food stamps, housing, etc. as well as costs associated with criminal activity. Nearly 13 million students will drop out over the next decade, costing the nation \$3 trillion (Alliance for Excellent Education, 2006a). The United States would save between \$7.9 and \$10.8 billion annually by improving educational attainment among all recipients of government assistance such as food stamps, housing, etc. (Alliance for Excellent Education, 2006a). If all students in the Class of 2006 in the state of Kansas had earned diplomas, the state would have saved \$125 million in health care costs (Alliance for Excellent Education, 2006b). If high schools in Kansas were able to graduate all students with the skills to be successful in college, the state would save approximately \$61 million in college remediation costs and lost earnings (Alliance for Excellent Education, 2012).

Students who drop out of high school are more likely to commit crimes and become incarcerated than their peers who earn a high school diploma. While not earning a high school diploma does not automatically mean a person is doomed to live a life in and out of prison, high school dropouts are far more likely to be arrested and/or incarcerated than high school graduates. In fact, high school dropouts are 8 times more likely to be arrested than high school graduates (Bridgeland, DiIulio, and Morison, 2006). Therefore,

remaining in school has a significant impact on crime reduction. Students who remain in school and earn diplomas are able to earn higher wages (therefore, reducing the perceived need to commit crimes to obtain money). Also, individuals with stable jobs may want to avoid the stigma of an arrest/incarceration. Further, to earn a diploma, more time is spent in the classroom and, therefore, students have less time to engage in criminal behavior during adolescence. The combination of these can have a positive impact on crime prevention. Economists estimate that if the male graduation rate were increased by a mere 5 percent, the annual savings from crime reduction would be \$5 billion (Lochner & Moretti, 2004).

The number of dropouts across the nation and in the state of Kansas has a negative impact on the economy. Increasing the graduation rate will positively impact the state and the nation by increasing wages, increasing spending, and decreasing costs. As a result of the impact that high school dropouts have on entire communities and the nation, a high school diploma is considered the “best economic stimulus package” (Alliance for Excellent Education, 2010a, p.1).

### *Summary*

Literacy is a necessary skill for academic and lifelong success. Without strong literacy skills, students are less likely to experience academic success and more likely to drop out of high school before graduating. Students who fail to complete high school enter the community earning less, contributing less, and costing more than their peers who successfully completed high school. Cutting the dropout rate in the United States in half for just *one* class of students would result in billions of dollars in increased earnings and create more than 50,000 new jobs in the nation (Alliance for Excellent Education, 2011).

One way to assist in lowering the dropout rate is to provide those students with additional support in the area of literacy. Rather than “vaccinating” them with literacy instruction in the early grades, students at the secondary level who struggle with reading need access to reading specialists who can provide them with expert guidance and instruction to improve their reading skills. However, there are very few reading specialists employed at the secondary level, leaving thousands of secondary students to continue to struggle with their literacy skills and the dropout rate to continue to climb.

Teacher education units can address this issue by giving future teachers the skills to provide effective literacy instruction at all levels, but particularly at the secondary level. New classroom teachers need to understand the tremendous importance of literacy skills on future success as well as be aware of the challenges that face today’s students. Teachers need training to be prepared with the skills to address the needs of all students, but particularly those that struggle with literacy. Not only does this impact the individual students, but the state and the nation as well. By producing teachers that can address these needs, the dropout rate will decrease and the state and nation will be positively impacted by the number of high school graduates entering the community.

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