Dropout Factories and the Vaccination Approach: The Impact of the Dropout Rate on the Economy and the Need for Effective Literacy Instruction

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Almost seven thousand students drop out of high school every day. Without strong literacy skills, students are less likely to experience academic success and more likely to drop out. This has a negative impact not only on those students, but on the economy. If the dropouts from the Class of 2011 had graduated, the nation's economy would have gained nearly $154 billion in additional income over their lifetimes. Therefore, a high school diploma is considered the "best economic stimulus package." The requirements of the Common Core State Standards will help address the literacy needs of students to be successful in school and become college and career ready.

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). 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, 2011c). "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). The Common Core State Standards (CCSS) (National Governors Association Center for Best Practices, 2010) set forth requirements for middle and secondary teachers to develop instructional practices that enhance the literacy skills of their students so that they are more prepared to meet the demands of school.

Dropout Rates and the Impact on the Economy

Among developed countries, the United States ranks 21st in high school graduation rates (Alliance for Excellent Education, 2011c). 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:

- Approximately 1.2 million students who will not graduate from high school with their peers as scheduled (Alliance for Excellent Education, 2010b).

- In the southeast region of the country, 52 of Miami's 106 high schools (49%) are considered dropout factories; 19 of Memphis' 58 high schools (33%) are considered dropout factories; 5 of Louisville's 36 high schools (14%) are considered dropout factories; 14 of Charlotte's 52 high schools (27%) are considered dropout factories; 42 of Atlanta's 149 high schools (28%) are considered dropout factories; 10 of Nashville's 57 high schools (18%) are considered dropout factories (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).

- 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 (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).

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. This has a detrimental impact on the economy because not only do high school dropouts tend to earn less and contribute less, but they also tend to cost more in expenses.

- 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, 2011b). 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. A high school dropout in Texas earns approximately $9,000 less per year than a high school graduate (Alliance for Excellent Education, 2011a). 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, 2011c).

- 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). If the graduation rate in Oklahoma increased to 90%, there would be an additional $6.2 million in annual state and local tax revenues (Alliance for Excellent Education, 2013b). Even one "class" of dropouts has a significant impact on the economy. If half of the students who dropped out of the Class of 2008 in the Dallas-Fort Worth area had graduated, the increase in wages and spending would have grown the state and local tax revenues by $19 million during an average year (Alliance for Excellent Education, 2010a).

- Lower local, state, and national spending is a consequence of the high dropout rate. Nationwide, if an additional 666,000 students had graduated with the Class of 2012, the national economy would have benefitted from an additional $6.1 billion in annual spending (Alliance for Excellent Education, 2013a).

If the graduation rate in Alabama increased to 90%, there would be an increase of $241 million in home sales and $15 million in auto sales (Alliance for Excellent Education, 2013b). 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, 2011c).

- 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 Florida had earned diplomas, the state would have saved $1.4 billion in health care costs (Alliance for Excellent Education, 2006b).

The number of dropouts across the southeastern United States and the nation 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).

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). However, there are millions of high school students struggling with their reading skills long after they leave the third grade. 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.

Despite the clear need for strong literacy skills, many students do not receive sufficient instruction in this area. 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). 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 8th grade scored at or above the level of "proficient" on the NAEP in reading in 2011 (NCES, 2011b). In Mississippi, 79% of 8th graders scored below grade level on the NAEP

in reading in 2011, leaving approximately only 20% of Mississippi 8th graders scoring at grade level (NCES, 2011b). Among those 8th graders, 91% of Black students and 87% of low-income students scored below grade level (scoring at basic or below basic levels) (NCES, 2011b). As a result of their poor literacy skills, many students like these drop out of school. Rotermund (2007) examined survey results from dropouts across the country and found that 32 percent of 10th 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.

The Common Core State Standards

One intention of the CCSS (National Governors Association Center for Best Practices, 2010) is to address the need for consistent literacy instruction throughout all grade levels. The CCSS are based upon the College and Career Readiness Anchor Standards (CCR). The CCR define what literacy skills are necessary for students to be prepared to enter college and/or workforce training programs. Based upon the CCR, the CCSS require teachers in the upper grades to build on the basic literacy skills by teaching students how to think critically, analyze texts, and write effectively. While there are various components of the CCSS that will change instruction, there are three aspects of the CCSS that will require teachers to change or enhance their instruction to meet the Standards and positively impact the literacy skills of students, resulting in fewer dropouts. First, there is an emphasis on reading non-fiction texts. Second, text complexity is closely analyzed so that students are reading appropriate texts. Third, vocabulary instruction is more purposeful and meaningful by emphasizing academic vocabulary. If students receive this type of intense, focused literacy instruction as they progress through school, they will possess the literacy skills not

only to graduate from high school, but to succeed in their college and/or career paths as well.

Non-Fiction Texts

The CCSS requires that the amount of non-fiction reading increases as students progress through the grades. College and career ready students must be proficient in reading complex, informational text independently in a variety of content areas. Most of the required reading in college and workforce training programs is informational (non-fiction) and challenging in its content. To prepare students for college and career reading, they must learn how to effectively read non-fiction texts while still in their K-12 school environment. While fiction texts are still appropriate and meaningful reading materials, the CCSS recommends a distribution of fiction and non-fiction texts throughout the grade levels. By grade four, students should be reading an even balance of fiction and non-fiction texts. However, by the 8th grade, the balance shifts and 55% of students' reading should be of non-fiction texts. And, by 12th grade, 70% of the reading students engage in should be of non-fiction texts. However, due to their unique structure, they are often more difficult for students to comprehend. Therefore, teachers must purposefully plan their instruction to meet the needs of their students as they engage in a substantial amount of non-fiction texts.

Grade	Literary (Fiction)	Information (Non-fiction)
4	50%	50%
8	45%	55%
12	30%	70%

Text Complexity

In addition to requiring students to read more non-fiction texts as they progress through the grade levels, the CCSS outlines requirements for effectively determining a text's complexity so that the text given to a student matches his or her strengths and areas for growth. Text complexity

encompasses both quantitative and qualitative issues as well as the match between readers, texts, and tasks. The CCSS defines a three-part model for determining how easy or difficult a particular text is to read as well as grade-by-grade specifications for increasing text complexity in successive years of schooling.

The three components of the CCSS approach to determining text complexity include qualitative dimensions, quantitative dimensions, and reader and task considerations:

1. Qualitative dimensions of text complexity: aspects measured by a human reader, such as levels of meaning or purpose, structure, language conventionality and clarity, and knowledge demands.

2. Quantitative dimensions of text complexity: aspects such as word length or frequency, sentence length, and text cohesion, that are difficult for a human reader to evaluate efficiently, so are typically measured by computer software.

3. Reader and task considerations. Variables related to the specific reader (such as motivation, knowledge, and experiences) and to the specific task (such as purpose and complexity of the task assigned). This is measured by the professional judgment, knowledge, and experience of the teacher.

Each component of the three-part model is essential to make the most appropriate match between a reader and a text. By purposefully analyzing all three components, teachers can choose texts that have appropriate structure, language, word length, sentence length, etc., but also match the readers' knowledge, purpose, motivation, etc. as well. By using all three components to analyze text complexity, teachers can provide more appropriate non-fiction texts to students. If an appropriate text is used, then the teacher can focus on enhancing the students'

comprehension and critical thinking skills. Without an appropriate text, those efforts may be fruitless.

Vocabulary

While it is always necessary for students to have a grasp of vocabulary words to comprehend a text, it is even more critical for students to have an understanding of vocabulary in order to successfully comprehend non-fiction texts. Therefore, the CCSS emphasizes the need for vocabulary instruction through a Tiered Vocabulary framework (National Governors Association Center for Best Practices, 2010). While many teachers are familiar with the idea of tiered instruction, this framework of tiered vocabulary may be a new approach for many teachers. This framework requires teachers to examine vocabulary words to determine their individual importance rather than simply teaching words from a list (regardless of their significance to the text).

According to this framework, vocabulary is divided into three tiers. Tier 1 contains common, well-known words. These words are "already known" words for most students of that particular grade level. If a word falls into this category, the teacher should not spend instructional time teaching or reviewing the word. Tier 2 words are general academic terms that appear frequently across content areas. Words such as justify, summarize, or innovative would be considered Tier 2 words because they can appear in various contexts and topics. That makes words such as these considered "must know" words. Therefore, words such as these should be explicitly taught by the teacher so that students have an established understanding of these words and will comprehend their meaning when they are encountered in texts in a variety of content areas. Finally, Tier 3 words are low-frequency, domain-specific words. These words are content-specific and have a low occurrence across content areas. These specialized words, such as isotope and

mitosis, are known as "should know" words. The teacher should teach these words to students when comprehension of the text is dependent upon the understanding of these words.

The CCSS emphasizes the need for instruction in Tier 2 (general academic) words. These are the words that are critical for understanding of academic texts, appear in various texts, and are typically not heavily scaffolded by authors or teachers like the scaffolding that typically occurs with Tier 3 words. This means that teachers should typically teach more Tier 2 words and simply provide Tier 3 words when necessary. The intent is that students will be able to transfer that knowledge of general academic vocabulary from content area to content area and text to text.

Teachers who offer students more opportunities to engage in non-fiction texts, purposefully choose texts to match the students, and provide students with a strong knowledge base of general academic (Tier 2) vocabulary, will foster students who have the literacy skills needed for success in school and in their future college and/or career paths.

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).

Students need teachers who are committed to continuing their literacy development rather than allowing their "vaccination" of literacy instruction in the early grades to suffice. With the requirements outlined in the CCSS, teachers can provide more opportunities for students to engage in literacy experiences that allow them to strengthen their literacy skills, be successful in their school career, and prepare them to be ready for college and/or a career. Students that are successful in school (and, therefore, remain in school and graduate with their peers) will positively impact their own futures as well as the economy of the region and the nation.

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