

THE EFFECT OF A SELF-REGULATED VOCABULARY INTERVENTION ON
WORD KNOWLEDGE, READING COMPREHENSION, AND SELF-REGULATED
LEARNING FOR ELEMENTARY ENGLISH LANGUAGE LEARNERS

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WORD KNOWLEDGE, READING COMPREHENSION, AND SELF-REGULATED
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English language learners (ELLs) represent an increasing population in U.S. public schools. Research reports from the past two decades suggest a persistent reading underachievement for ELLs. Academic vocabulary knowledge, due to its frequent use in academic texts, contributes significantly to ELL children's English language development, reading comprehension, and general academic achievement. However, a gap of vocabulary knowledge exists between ELLs and their mainstream peers. One potential approach to address this issue is to help ELLs become mastery independent and proactive word learners. This study examined the effect of a researcher-led self-regulated vocabulary intervention on word knowledge, reading comprehension, and self-regulated learning in social studies for upper elementary ELLs. Self-regulatory word-learning strategies were guided by Michael Graves' (2006) discussion of task-specific word learning strategies, and by Barry Zimmerman and Dale Schunk's (2000) self-regulated learning theory from a social cognitive perspective. Specifically, the intervention instruction involved (1) task-specific cognitive strategies including morphological analysis and contextual analysis (i.e., how to use word parts and context clues to learn words), and (2) metacognitive strategies including goal-setting and monitoring (i.e., set goals and monitor their word learning and reading comprehension). A single-case

experimental design was conducted with multiple-baseline design across subjects with 9 ELL children for 16 sessions, 3 sessions per week, and about 30 minutes per session.

PREVIEW

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PREVIEW

Chapter I. Introduction

Overview of the Issues

At the national level the population of ELLs, who are in programs for language assistance in U.S. public schools, has increased significantly in the past two decades. The population increased from approximately 2 million in the 1993-94 school year to 3 million in the 1999-20 school year, and to over 4 million in the 2011-12 school year (Kena et al., 2015; Meyer, Madden, & McGrath, 2004). The percentage of ELLs increased from 5% in the 1993-94 school year to 7% in the 1999-00 school year, and to 9% in the 2012-13 school year (Kena et al., 2015; Meyer et al., 2004). At the regional level, the growth and distribution of this population is uneven across geographic regions. For example, the majority of the growth happened in the Midwest and East in the 2012-13 school year. Five out of the six states with the highest percentages of ELLs were distributed in the West. ELLs constituted over 10% of public school students in the states of Alaska, California, Colorado, Nevada, New Mexico, and Texas as well as in the District of Columbia. In California, ELLs constituted about 23% of public school students in the 2012-13 school year.

The home languages spoken by ELLs vary greatly at the national and state level (Kindler, 2002; Ruiz Soto, Hooker, & Batalova, 2015). Spanish was the most common home language nationwide in 2013 (71%), followed by Chinese (4%), Vietnamese (3%), French (2%), and Arabic (2%). While most states had Spanish as the top home language (over 60%), a few states had other top home languages (Kindler, 2002; Ruiz Soto et al., 2015). For example, Yupik is the top language in Alaska, German in Montana, and Ilocano in Hawaii (Ruiz Soto et al., 2015).

Every Student Succeeds Act (ESSA) as a recent educational law responded to this large and diverse population. This Act specified the priority for schools to meet the educational needs of ELLs by providing responsive instruction that addresses ELL children's different proficiency levels, and providing access to a challenging curriculum that are aligned with the State academic standards, in order to prepare them to be "college- and career-ready" (ESSA, 2015). Currently, a variety of programs are available in schools aiming to facilitate ELLs with English language development and academic performance (Genesee, Lindholm-Leary, Saunders, & Christian, 2005). These programs range from bilingual education to English-only immersion (e.g., ESL pullout, structured immersion, sheltered English) (Rolstad, Mahoney, & Glass, 2005). Bilingual education programs are most easily implemented in school districts with students from similar language background, whereas English-only immersion programs happen more often for school districts with students from different language and cultural backgrounds. Program effects differ as a result of varying program models, funding sources, teacher qualification, school facilities, and educational policy (Jimenez-Castellanos & Topper, 2012). However, effective programs do share some characteristics, such as positive school environment, academically challenging and meaningful curriculum, theory-based practice, teachers with theoretical knowledge, and the use of cooperative learning (Genesee et al., 2005).

Despite the effort of various programs, a significant academic achievement gap persists between English language learners and their English-only peers. Reports from many national large-scale assessments and small-scale studies in the past few decades suggest that English language learners lag behind in almost all academic performances

(Kindler, 2002; Mulligan, Halle, & Kinukawa, 2012; National Center for Education Statistics, 2015). The most recent results from the National Assessment of Educational Progress (also known as “The Nation’s Report Card”) indicate that ELLs consistently underperformed in both reading and mathematics at 4th- and 8th- grade levels between 1996 and 2015 compared to English-only students (National Center for Education Statistics, 2015). The overall performance of ELLs on the Report Card has not improved over the past ten years. In 2015 at the 4th-grade level, 85% non-ELLs were at or above basic level in mathematics, compared with 57% for ELLs; 73% non-ELLs were at or above basic level in reading, compared with 32% for ELLs. At the 8th-grade level, 74% non-ELLs were at or above basic level in mathematics, but only 31% for ELLs; 79% non-ELLs were at or above basic level in reading, compared with 29% for ELLs. Another annual survey about ELLs from 41 state education agencies revealed that only 18.7% of ELLs scored above the state-established norm in reading comprehension in the 2001-02 school year (Kindler, 2002).

One longitudinal study (Mulligan et al., 2012) examined 8th-grade achievement in reading, mathematics, and science of ELLs who began kindergarten in the 1998-99 school year. Findings suggested ELLs who entered kindergarten with a lack of English proficiency had significantly lower scores than English-only students in all subject areas. The underachievement continues when ELLs enter high school and is related to several negative outcomes. For example, according to the most recent Fast Facts on college- and career-readiness related programs (Office of English Language Acquisition, 2015), only 2% high school ELLs were in advanced placement programs compared with 5% for

English-only students; only 2% ELLs were enrolled in gifted and talented education programs compared with 7% for English-only students.

In addition, ELLs seem to be at higher risk for being identified as in need of special educational services, especially in the high-incidence categories such as mild mental retardation and specific learning disabilities (Sullivan, 2011). ELLs with cultural diverse backgrounds are disproportionately represented in special education (Zhang, Katsiyannis, Ju, & Roberts, 2012). The percentage of ELLs passing high school mathematics exit exams was 30% to 40% lower than the percentage for mainstream students (70% to 90%) in California; the gap of reading achievement in exit exam was even larger (Xiong & Zhou, 2006). High school graduation rate for ELLs was 59%, significantly lower than the national average of 80% in the school year 2011-12 (Stetser & Stillwell, 2014).

Academic Language

This academic achievement gap can be partially ascribed to the lack of academic English proficiency for ELLs. For instance, ELLs who entered kindergarten with proficient English performed as well as English-only students in 8th grade reading, mathematics, and science; however, ELLs who entered kindergarten with low English proficiency scored significantly lower than English-only students in all three subject areas in 8th grade (Mulligan et al., 2012). Academic English is critical for ELLs to understand both academic conversations and academic content knowledge (August & Shanahan, 2006; Snow & Uccelli, 2009; Schlepppegrell & Colombi, 2002; Townsend, Filippini, Colins, & Biancarosa, 2012). At the upper elementary grade level, students are expected to comprehend new information from content area texts. The lack of academic

English for these texts can be a serious obstacle to ELLs' access to academic conversations and content knowledge. It is not surprising that academic English proficiency is significantly related to ELLs' overall academic achievement (Townsend, et al., 2012).

Academic Vocabulary

Academic vocabulary knowledge is essential for the development of academic language skills (Baumann & Graves, 2010; Nagy & Townsend, 2012; Snow & Uccelli, 2009). The critical role of academic vocabulary for literacy development and academic achievement is well documented for mainstream students (Elleman, Lindo, Morphy, & Compton, 2009; National Reading Panel, 2000; Stahl & Nagy, 2006). A growing body of research suggests that academic vocabulary knowledge is also critical for ELLs within the context of K-12 education (August et al., 2005; Burgoyne, Whiteley, Spooner, 2009; Carlo, August, McLaughlin & Snow, 2004; DiCerbo, Anstrom, Baker, & Rivera, 2014; Graves, August, & Mancilla-Martinez, 2012; Helman, 2008; Snow & Uccelli, 2009). The lack of sufficient vocabulary knowledge is perhaps the greatest challenge for ELLs to comprehend academic content knowledge at appropriate grade levels and to read extensively beyond content area texts (Wallace, 2008).

Academic vocabulary acquisition is a tremendous challenge for ELLs. The processes of vocabulary acquisition are difficult in itself due to the complexity of vocabulary knowledge (Beck, McKeown, & Omanson, 1987; Dale, 1965; Nagy & Scott, 2000). For instance, the most current discussion suggests five dimensions of a person's understanding of word knowledge, including incrementality, multidimensionality, polysemy, interrelatedness, and heterogeneity (Nagy & Scott, 2000). While ELLs may

appear to acquire non-academic vocabulary fast, they can be well behind in academic vocabulary acquisition compared with their English-only peers who experience steady vocabulary growth with cumulative and rich language exposure (DiCerbo, Anstrom, Baker, & Rivera, 2014; Snow & Uccelli, 2009). ELLs have generally less width and depth of vocabulary knowledge than non-ELL students. ELLs have a smaller academic vocabulary size, of which they know the meanings less well compared with non-ELL students (August et al., 2005; Wallace, 2008). With limited vocabulary knowledge, ELLs can be cognitively overloaded as they read academic texts because they have to split attention for both unknown words and the information necessary for comprehending academic content knowledge. The task becomes even more complicated when the unknown words bear critical information for the comprehension of content knowledge.

ELLs are challenged to acquire a large number of words. Non-ELL children enter school with a relatively small size of reading vocabulary; once in school, a child's reading vocabulary develops at a rate of 3,000 to 4,000 words a year or about 10 words a day, leading to a reading vocabulary of about 25,000 words by the time they are in eighth grade, and about 40,000 to 50,000 word in twelfth grade for those who are at average and above average reading level (Graves, 2009; Herman, 1987; Stahl & Nagy, 2006). Only a few hundred words are directly taught each year, and students learn the rest on their own (Graves, 2009). ELLs, who start learning English even only a few years late, must speed up their learning rate through both direct instruction and independent learning if they are to match the vocabulary knowledge of non-ELL students.

To help ELLs meet the challenge, teachers and researchers have developed a number of research-based vocabulary intervention programs, such as Success for All, and

Help with English Language Proficiency “HELP” program (Carlo et al., 2004; Gersten et al., 2007; Slavin et al., 2009; What Works Clearinghouse, 2006, 2012a, 2012b). These programs shared several recommendations for effective instruction to ELLs: (1) providing rich and authentic language experience, (2) teaching vocabulary learning strategies (e.g., morphological strategies, contextual analysis, and dictionary use), (3) teaching general as well as content-specific words explicitly, (4) fostering word consciousness, (5) providing repeated exposure, and (6) using first language effectively (Calderon et al., 2005; Graves et al., 2012; Mancilla-Martinez, 2010; Wagner, Muse, & Tannenbaum, 2007; What Works Clearinghouse, 2007). The development of these effective instructions is challenged by the limited time available for direct instruction in the classroom and the importance for ELLs to continue word learning out-of-school settings (August et al., 2005). Though vocabulary research experts suggest the possibility of accelerated vocabulary growth for ELLs to catch up and keep up with their non-ELL peers through systematic and long-term vocabulary intervention (Carlo, August, Snow, 2005), existing literature of vocabulary instruction programs is far away from bridging the persistent gap of vocabulary knowledge. One promising approach to helping ELLs increase the width and depth of their vocabulary knowledge is to teach effective word-learning strategies (Carlo, August, & Snow, 2005; Graves, 2000, 2009; Nagy & Scott, 2001) so that they might reinforce their knowledge of learned words and learn new words during the school day, as well as continue the learning beyond school time. In the current study, I focused on the instruction of two types of word-learning strategies, including the use of task-specific strategies and metacognitive strategies.

Statement of the Problem

Teaching effective word-learning strategies is a powerful way that allows ELLs to maximize their academic vocabulary acquisition. Morphological analysis is one research-supported strategy to learn words (Anglin, 1993; Baumann et al, 2003; Graves, 2006; Kieffer et al., 2014). Contextual analysis, or the use of context clues, is another widely recommended word-learning strategy (Baumann et al., 2003; Nagy & Scott, 2000). With effective word learning strategies, academic vocabulary acquisition goes beyond direct instruction in the classroom. ELLs may continue to build up their vocabulary through independent learning when they encounter new or unfamiliar words.

Being able to identify and label strategies is not the end goal for vocabulary acquisition (Baker, 2008). Metacognitive skills are critical for word learning (Nagy & Scott, 2000). Dignath, Buettner, and Langfeldt (2008) found interventions focusing mainly on domain- or task-specific strategies reached lower effects than those combining both domain-specific strategies and metacognitive factors. Indeed, teaching a variety of strategies is not enough because learners not only need declarative knowledge (what strategy) but also procedural knowledge (How to use) and conditional knowledge (when and why to use) (Lipson & Wixson, 2008). ELLs should be able to consciously and purposefully monitor and reflect their word learning processes, flexibly use task-appropriate strategies and transfer the strategies to new tasks. For example, it is important to know when and how to use morphological analysis as well as the skills of monitoring and adjusting their use of strategies when they read academic texts with morphologically complex words (Kieffer, 2008). As ELLs become more skilled and automated in using the strategy of morphological analysis to decide the meanings of unfamiliar words, they

may free up their working memory for the information of content area texts, which is a key for academic success. If students overly focus on unknown words, they pay less attention to key ideas in reading text (McKeown, Beck, & Black, 2008).

The motivational beliefs about word learning are critical. Students are less likely to learn words if they are not motivated to learn new words. The development of an affective and efficacious stance toward word learning is as important as a cognitive aspect (Graves & Watts, 2008). ELLs who are more motivated tend to perform better on vocabulary knowledge (Taboada et al, 2011).

Though vocabulary acquisition scholars do agree on the potential role of motivational factors (Graves & Watts, 2008; Taboada et al, 2011), metacognitive skills (Graves & Watts, 2008; Nagy & Scott, 2000), and cognitive vocabulary learning strategies (Baumann, et al., 2003; Graves 2009) for vocabulary acquisition, little, if any, has been studied about the effect of instruction that incorporates these three components simultaneously. Existing principles of vocabulary acquisition mainly focus on direct vocabulary instruction. Direct instruction with carefully selected words provide ELLs a useful repertoire of words; if ELLs are to catch up and keep up with English native speakers, they should also acquire some effective word-learning strategies and know how to regulate their learning, so that they can continue learning academic words after receiving direct instructions. I suggested in the current study that ELLs should be strategic, motivated, efficacious, and persistent life-long word learners who continue to make progress in their journey of vocabulary acquisition. The skills are important considering Common Core State Standards (CCSS, 2012) requires students to read more expository texts in areas such as science and social studies that features complex

academic words. CCSS also requires students to “determine the meaning of general academic and domain-specific words and phrases in a text” relevant to grade-level topics or content areas (CCSS, 2002, p. 14).

The current study focused on the development of self-regulated word-learning strategies from a social cognitive perspective (Bandura, 1986; Boekaerts, Pintrich, & Zeidner, 2000; Zimmerman & Schunk, 1989, 2011). The theoretical foundation is a combination of self-regulatory processes (Bandura, 1986; Zimmerman, 1986, 2001) and vocabulary learning processes (Carlisle, 2007; Nagy & Scott, 2000; Nagy & Townsend, 2012; Graves, 2009). This approach involved three aspects: cognitive learning strategies, metacognitive strategies, and motivational beliefs. The task-specific cognitive strategies included morphological analysis and contextual analysis, two of the highly recommended word-learning strategies in vocabulary research literature (Baumann, et al., 2003; Graves, 2009; Nagy & Scott, 2000). These two strategies are limited to the particular tasks of learning words; they are not general in nature according to the discussion on strategy research (Alexander, Graham, & Harris, 1998; Pressley et al., 1989). The metacognitive strategies included goal setting and monitoring of one’s word learning processes. The motivational beliefs included self-efficacy and task values of word learning.

Purpose of the Study

The purpose of this study was to examine the effectiveness of a self-regulated word-learning intervention on word knowledge, reading comprehension, and self-regulated word learning. This intervention approach attempted to tackle the challenge of word learning for ELLs and prepare them to be proactive, effective, and motivated life-long learners of words. To address the issue, the research questions included:

1. Did the instruction improve word knowledge for ELLs? If so, how?
2. Did the instruction improve reading comprehension for ELLs? If so, how?
3. Did the instruction enhance cognitive strategy use of morphological analysis and contextual analysis for ELLs? If so, how?
4. Did the instruction enhance metacognitive word-learning skills for ELLs? If so, how?
5. Did the instruction increase the motivational beliefs for word learning for ELLs? If so, how?

Significance of the Study

The significance of the problem included four aspects. It added to the current discussion of vocabulary acquisition and vocabulary instruction for ELLs at upper elementary level, especially in integrating self-regulated learning into the teaching and learning of words.

It added to the discussion of self-regulated learning in academic settings in the area of vocabulary acquisition for ELLs. As mentioned earlier, most existing vocabulary interventions emphasized direct instruction or task-specific word learning strategies, leaving less examined the metacognitive and motivational aspects.

The results of current study provided us an increased understanding on how we might better serve ELLs in terms of acquiring academic vocabulary effectively. Self-regulated word learning can provide ELLs with skills to face the challenge of acquiring a large vocabulary size independently. Teaching morphological analysis allows ELLs to build a solid foundation for independent word learning. Contextual analysis provides ELLs a useful tool to infer and learn word meanings from reading text. Metacognitive

skills allow ELLs to monitor, reflect, and adjust their word learning processes as they perceive fit. More importantly, metacognitive skills allow ELLs to transfer their word learning skills to different learning contexts. The importance of motivational beliefs involves the fostering of interest and self-efficacy in learning words.

Definitions of Terms

Several terms are key to the understanding of the present study. Among them are English language learners (ELLs), academic vocabulary, and self-regulated learning.

English Language Learners

English language learners (ELLs) refer to students who have adequate difficulty understanding, reading, speaking, or writing English language to be denied the opportunity to learn successfully in classrooms where English is the language of instruction or the opportunity to participate fully in larger U.S. society (U.S. Department of Education, NCES, 2014). ELLs usually participate in certain programs of language assistance, such as English as a second language (ESL) pullout program, content-based ESL program, or bilingual instructional program.

Academic Vocabulary

Academic vocabulary is generally referred as technical words necessary for academic learning and performance (e.g., reading comprehension, writing) (Hiebert & Lubliner, 2008). Academic vocabulary is a specific aspect of academic language, and academic language refers to “the specialized language, both oral and written, of academic settings that facilitates communication and thinking about disciplinary content” (Nagy & Townsend, p.91). Nagy and Townsend (2012) used the metaphor of “words as tools” to suggest that academic vocabulary instruction must approach words as means for

“communicating and thinking” about disciplinary content knowledge and must therefore provide students with ample opportunities to apply the instructed words for these two purposes. Academic vocabulary words typically include two categories: domain-specific and general (Baumann & Graves, 2010; Hiebert & Lubliner, 2008). Domain-specific academic vocabulary refers to “content-specific words used in disciplines like biology, geometry, civics, and geography”, whereas general academic vocabulary involves “the broad, all-purpose terms that appear across content areas but that may vary in meaning because of the discipline itself” (Baumann & Graves, 2010, p.6). General academic words are frequently used in academic language and shared across disciplines (e.g., demonstrate, predict, approximate).

Self-regulated Learning

Self-regulated learning generally refers to the process where students activate and sustain cognitions, behaviors, and affects that are systematically oriented toward attainment of their goals (Schunk, 2008; Zimmerman, 1989; 2001, 2013). In the present study I referred to a social cognitive model of self-regulated learning developed by Barry Zimmerman (1989) partially based on Albert Bandura’s (1986) triadic analysis of human functioning in terms of personal, behavior and the environmental components, and partially on the role of strategies and feedback. Specifically, self-regulated learning in the present study included the concept of cognitive strategy use (i.e., task-specific strategies of morphological analysis and contextual analysis) metacognitive strategy use (i.e., goal setting and monitoring), and motivational beliefs (i.e., task values and self-efficacy).

Chapter II. Literature Review

Introduction

The discussion in this chapter is organized into the following sections: (1) academic vocabulary acquisition, (2) word-learning strategies, (3) self-regulated word learning, (4) metacognitive strategies, (5) motivational beliefs, (6) principles of academic vocabulary intervention, and (7) summary for literature review.

Academic Vocabulary Acquisition

Importance of Academic Vocabulary Knowledge

The importance of academic vocabulary knowledge for reading comprehension and academic achievement is well-documented particularly for students in upper elementary grade levels and beyond (Anderson & Freebody, 1981; Baumann & Graves, 2010; Beck, Perfetti, & McKeown, 1982; Carlisle, 2007; Perfetti & Stafura, 2014; McKeown, Beck, Omanson, & Perfetti, 1983; Nagy & Townsend, 2012; National Reading Panel, 2000; Townsend, Filippini, Collins, & Biancarosa, 2012). A number of experimental studies provide evidence for the notion that word learning affects both vocabulary knowledge development and reading comprehension. In the earliest study, Beck et al. (1982) examined the relationship between word knowledge and semantic processes through an in-depth and varied vocabulary instruction experiment with 4th-grade students over a five-month period. Results revealed that, after controlling students' pre-intervention word knowledge and comprehension, students in experimental group outperformed those in control group on the tasks of single-word semantic decision, knowledge of the instructed words, reading comprehension of texts with words taught,