EXPLORING THE SELF-REPORTED KNOWLEDGE AND VALUE OF IMPLEMENTATION OF CONTENT AND LANGUAGE OBJECTIVES OF HIGH SCHOOL CONTENT-AREA TEACHERS

By

SEONG-SHIN KIM

B.A., Dan-Kook University, 1991

M.S., Wichita State University, 2000

AN ABSTRACT OF A DISSERTATION

Submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Curriculum & Instruction
College of Education

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Manhattan, Kansas

2007

Abstract

Four high schools with high ELL enrollment and a high percentage of teachers taking graduate-level ESL courses participated in this quantitative study. The content-area teachers completed a *Survey of Teachers' Knowledge and Value of Implementation of Content and Language Objectives*. The survey included two sections: (a) a demographics section and (b) a support section in which respondents self-rated their knowledge and value on content and language objectives.

Descriptive statistics were used to generate the mean, standard deviation, and frequency distribution of the demographics of the samples, which were independent variables of this study. Inferential statistics on the research hypotheses were calculated using multiple correlation/regression and one-way ANOVA.

Results from the support section indicated respondents perceived their knowledge and value on content and language objectives were not lacking. However, results also revealed that teachers rated themselves lower on knowledge and value on implementing language objectives than they did on knowledge and value on implementing content objectives. In addition, data analysis revealed that *percentage of students who were ELL last year* and *hours of ESL related training* can be linked to the teachers' self-rated degree of knowledge and value on implementing content and language objectives.

As a result of this study, five recommendations for practice were made. Of these, the researcher believes the following to be most crucial: (1) Because the number of ELL students continues to increase, even those teachers who currently have a small number of ELL students in their classrooms must be willing to enhance their knowledge and value

on content and language objectives; (2) Teacher educators for pre-service programs should place greater emphasis on the integration and implementation of content and language objectives; and (3) Staff developers should be informed of a need to increase the professional development of in-service teachers with regard to language objectives.

Among other recommendations for future research, the researcher suggests the need for future studies to include more specific investigations on how teachers construct language objectives. Furthermore, future studies should pursue ways to encourage educators to participate in ESL related workshops or trainings and to form mentoring relationships with colleagues.

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Chapter 1
Introduction

In the last couple decades, the U.S. federal government has been more committed to high-quality education than ever before. Many scholars speculate that this increased federal commitment to education, epitomized by the No Child Left Behind (NCLB) Act in 2001, is driven by a need for a better-educated workforce. As technological innovations have eliminated the need for most manual labor jobs, employers have had an ever greater need for innovative workers who can develop and operate complex machinery and technologies (Lachat, 2004). This has resulted in an increasing need for workers with higher-order thinking skills and problem-solving skills.

The significant increase in the number of English language learning (ELL) students in the U.S. educational system poses a challenge to teachers who are trying to meet the high standards of NCLB. The NCLB Act has made educators increasingly accountable for the performance of their students, demanding stringent academic standards for all students regardless of race, socioeconomic status, language, or exceptionality. With this increased federal emphasis on academic standards, educators are now forced to include ELL students in the content-area classroom or at least integrate the content-area subject matter with English-language instruction.

This study examines the ability of high school content-area teachers to meet the high academic standards for ELL students by exploring the degree to which high school teachers effectively integrate content and language objectives in the classroom. Past studies have focused on the ability of teachers to meet either content or language objectives, in isolation, while this study emphasizes the need to integrate these two types of objectives in order to meet the academic standards of NCLB for ELL students.

Focusing on these issues, this chapter is divided into the following sections: (1) overview of the issues, (2) statement of the problem, (3) purpose of the study, (4) research questions, (5) significance of the study, (6) limitations of the study, and (7) definition of terms.

Overview of the Issues

The number of recent immigrants with English as a second language (ESL) needs has risen dramatically over the last several years. According to the National Center for Educational Statistics (NCES, 2005), between 1979 and 2003 the number of school-age English language learning students rose from 3.8 million to nearly 10 million. In other words, in the last three decades there has been a 161% increase in the number of ELL students in U.S. classrooms (NCES, 2005). These ELL students generally require special language accommodations as well as aid in learning academic content in order to catch up with their native-English-speaking peers. That is, ELL students often face the dual challenge of learning a new language while simultaneously learning academic content to which they have not previously been exposed.

More than any other group, ELL students attending high school are academically disadvantaged compared to their native-English-speaking peers. High-school-level ELL students who are recent immigrants to the United States have extremely varied degrees of literacy skills even in their native language (L1). As a group, they have extremely diverse backgrounds in terms of prior schooling, levels education completed by parents, and socioeconomic status (Echevarria & Graves, 2007; Echevarria, Vogt, & Short, 2004; Herrera & Murry, 2005; Lachat, 2004; Ruiz-de-Velasco & Fix, 2000). And although the ELL population in high school is significant and continues to grow, these students are not given the same support and resources that younger ELL students receive. For example, although 76% of all ELL students in elementary school receive specialized instruction, only 48% of all ELL students in high school receive such instruction (Ruiz-de-Velasco & Fix, 2000). This is because high school students are generally expected to be academically independent, even when they are struggling with a new language and have had little exposure to the academic content covered in U.S. classrooms. In fact, most high school classes are taught solely in English with little to no language accommodations for non-native speakers (Gonzalez, Yawkey, & Minaya-Rowe, 2006). It is not surprising, then, that the academic progress of ELL high school students remains low despite promising school attendance records (Kindler, 2002). For these reasons, high school-level ELL students, more than any other age group, lag behind their native-English-speaking

peers (NCES, 2005).

Overall, American educational institutions are not equipped to meet this increasing demand for ESL facilities, support, and resources. According to one survey, less than 20% of teachers are prepared to work with ELL students despite the fact that nearly 56% of all classrooms have at least one ELL student (Alexander, Heaviside, & Farris, 1999). In fact, only 12.5% of teachers have received nine or more credit hours of professional development specific to the needs of ELL students (NCES, 2002). Consequently, teachers are consistently reporting that they do not feel prepared to teach their ELL students (NCES, 1998). Without receiving adequate professional development, teachers do not know which methods and strategies are most effective in teaching ELL students.

High school content-area teachers are particularly at a loss when it comes to effectively teaching ELL students. Most high school content-area teachers only see themselves as teachers specializing in their own fields, not as language teachers. Consequently, they are not familiar with second language development methodologies and strategies (Cushner, McClelland, & Safford, 2006; Escamilla, 1999; Herrera & Murry, 2005; Krashen, 1996; Miramontes, Nadeau, & Commins, 1998). What many high school teachers do not realize is that many of their students do not have the English language proficiency needed to understand the content instruction. Without providing instruction that facilitates the academic language development of ELL students, content-area teachers will likely find their content lessons ineffective with these students.

The ineffectiveness of current ESL programs has only exacerbated this problem. In particular, the widely implemented ESL pullout program model, whereby ELL students are pulled out of the classroom and taught intensive English, has repeatedly been found ineffective (Collier, 1995). Pullout programs are ineffective because language is taught in isolation and the material is frequently inappropriate for addressing the educational needs of the ELL students (Herrera & Murry, 2005). Therefore, ELL students, who often are already academically disadvantaged due to a previous lack of academic resources, are further hindered in acquiring required academic content when ESL programs focus on language in isolation from content.

Since the passage of NCLB, educational institutions have come under increasing pressure to develop ESL programs that are effective in closing the achievement gap between ELL students and native-English-speaking students. According to NCLB, all students, including ELL students, are expected to be proficient by 2014. Educational institutions are now forced to disclose the academic progress of all ELL students and face funding cuts if adequate progress is not made. Given the continuing failure of pullout programs to significantly improve the academic achievement of ELL students, structural reform of ESL programs nationwide is required.

As the federal government continues to place pressure on educational institutions to increase the level of academic standards attained by their students, and with study after study demonstrating the ineffectiveness of pullout programs, many schools have begun adopting innovative program methods and instructional strategies. These new programs ensure that ELL students are included in content-area classrooms, while simultaneously facilitating the students' English language development. Three prominent programs that emphasize integrating language instruction with academic content instruction are: integrated content-based (ICB) instruction, the cognitive academic language learning approach (CALLA), and sheltered instruction (SI). Schools that have implemented ICB, CALLA, and SI programs have experienced increased attendance rates, higher graduation rates, and improved reading and writing scores (Ancess & Darling-Hammond, 1994; Chamot, 1995; Northwest Regional Educational Laboratory [NWREL], 2003). The successes of ICB, CALLA, and SI programs illustrate the importance of identifying content and language objectives for the academic progress of all ELL students.

Statement of the Problem

The implementation of content objectives and language objectives in isolation is used to meet the academic standards required by NCLB. However, the integration of these two types of objectives is even more effective in promoting and measuring the academic progress of ELL students. Content objectives are an effective academic tool because they give students direction by informing them of the content they should know before class as well as the content they will gain from the lesson (Mager, 1984). Academic standards are more fully integrated in the curriculum when content objectives

are identified because the degree to which students attain the content objectives can be used as an assessment of students' academic progress. Likewise, language objectives are an effective academic tool because they inform students of the vocabulary, level of reading comprehension, and levels of writing, listening, and speaking skills they are expected to attain in a given lesson (Met, 1991). The implementation of language objectives is crucial because the number of language objectives met by students can be used to measure their progress in language acquisition and development. Given the importance of both content and language objectives for all students in meeting the high academic standards of NCLB, the integration of these two types of objectives should facilitate the academic progress of ELL students to an even greater degree.

A number of researchers have argued that it is critical for teachers to identify content and language objectives so they can effectively integrate these two areas of instruction (Chamot & O'Malley, 1994; Echevarria et al., 2004; Gonzalez et al., 2006; Herrera & Murry, 2005). However, these objectives cannot be effectively implemented unless students are aware of them. Many researchers have emphasized that content and language objectives should be posted somewhere in the classroom where all students can visually check their learning progress at any time during the lesson (Brinton, Snow, & Wesche, 1989; Chamot, 1995; Echevarria et al., 2004; Grabe & Stroller, 1997; Gronlund, 2004; Herrera & Murry, 2005; Met, 1991). However, very few studies have examined the level of teachers' knowledge about content and language objectives and the extent to which they are implementing these objectives. Through this study, the researcher hoped to shed light on this topic.

Purpose of the Study

The purpose of this study was to discover how knowledgeable about content and language objectives content-area teachers from selected high schools perceive themselves to be. The participating teachers in this study all teach in cities in Kansas with large ELL student populations. A recent trend in immigration patterns has been an increase in the number of non-English-speaking immigrants in the rural and non-traditional urban communities of the Midwest and the South (National Conference of State Legislators [NCSL], 2007). For example, according to the Kansas State Department of Education

(2006), 27% of students in Emporia, Kansas, are ELL students, and 39% of students in Liberal, Kansas, are ELL students. The Kansas high schools selected for this study have ELL student populations that comprise approximately 15-45% of the total student population. These figures indicate that the issue of ELL accommodation is urgent for high school teachers in Kansas.

This study also explored the extent to which content-area teachers from selected high schools in Kansas value implementing content and language objectives in their classroom. Teachers' awareness and understanding of content and language objectives does not necessarily equate to their implementation of these objectives during instruction with students. Therefore, this study differentiated between teachers' perceived knowledge of content and language objectives and the perceived degree to which they value implementation of content and language objectives.

Finally, this study investigated whether teachers' perceived degree of knowledge and value of implementation of content and language objectives were associated with various demographic characteristics of the participating high school teachers, such as fields of expertise, years of teaching experience, percentage of ELL students in the classrooms, hours of ESL training received, and attainment of ESL certification. By examining these variables, this study hoped to (a) determine which types of teachers (e.g., teachers from which fields of expertise) are likely to implement content and language objectives in their classroom instruction, (b) investigate whether years of teaching experience influence the degree of knowledge and value of implementing content and language objectives reported by a selected group of high school teachers, and (c) uncover the effectiveness of ESL certification programs in encouraging high school teachers to implement content and language objectives.

Research Questions

This study attempted to answer the following questions:

1. To what extent are content-area teachers of a selected group of high schools knowledgeable about the concept and the role of content and language objectives in ELL students' achievement in a content-area classroom?
2. To what extent do content-area teachers of a selected group of high schools value

content and language objectives in their current instruction?

3. How are several demographic characteristics of content-area teachers of a selected group of high schools associated with their responses about their knowledge and value of content and language objectives?

Significance of the Study

By examining the degree to which content-area high school teachers perceive that they are knowledgeable about and value the implementation of content and language objectives, this study shed light on an area of praxis that has not been adequately studied. While most teachers faithfully implement content objectives, few set language objectives for their ELL students. This study is unique because it emphasized the importance of integrating content and language objectives rather than implementing either type of objective in isolation from the other.

The outcomes of this study are beneficial for educators in various positions. First, teacher educators for pre-service programs are informed of the perceived knowledge and value of implementation, or lack thereof, of content and language objectives among a selected group of high school content-area teachers. This information indicates the degree to which there may or may not be a need for greater emphasis on content and language objectives in future curriculum development endeavors. Second, the results of this study inform staff developers about a potential need to increase the professional development of in-service teachers with regard to content and language objectives. Third, this study reminds K-12 teachers of the potential benefits of integrating content and language objectives in instruction for ELL students. Fourth, the results of this study highlight a potential need for state departments of education to incorporate the use of content and language objectives in licensure requirements aimed at school improvement.

Limitations of the Study

First, the study was limited to the state of Kansas, which has a high awareness of ESL needs and which provides a large degree of support for ESL education. Second, the study sites were not randomly selected. Third, the sample size of this study was relatively small. Fourth, the number of ESL certified teachers in the study sample

was significantly smaller than the number of non-ESL certified teachers. Fifth, the survey respondents voluntarily participated. Sixth, the survey instrument developed by the researcher had not been previously tested. Seventh, this study relied on self-report surveys, the responses of which cannot be verified. Finally, because of the difference in numbers of questions related to the language objectives section versus the content objectives section, the mean scores had to be converted to percentage scores for analysis.

Definition of Terms

Basic interpersonal communication skills (BICS) – The language ability needed for casual conversation, which requires the use of high-frequency words and simple grammatical constructions and is supported by nonverbal cues such as facial expressions, gestures, intonation, and so forth (Cummins, 1999).

Cognate – "A word in one language, the form and definition of which resemble a word in a different language" (Herrera & Murry, 2005, p. 369).

Cognitive academic language learning approach (CALLA) – "A method of instruction that is grounded in the cognitive approach and focuses on the explicit instruction of learning strategies and the development of critical thinking as a means of acquiring deep levels of language proficiency" (Herrera & Murry, 2005, p. 9).

Cognitive academic language proficiency (CALP) – The language ability needed for learning academic material through the use of less frequently used English vocabulary, complex written language, complex syntax, and abstract expressions that are not often heard in everyday conversation (Cummins, 1999).

Content area – A discipline of study. Examples of content areas include mathematics, natural sciences, physical education, and the social sciences (Karathanos, 2005).

Context-embedded language – Language that provides non-linguistic supports, such as facial expressions, to give participants contextual information about what is being communicated (Lewelling, 1991).

Context-reduced language – Language, such as that found in textbooks, which provides only limited contextual information or extralinguistic support but is necessary for academic achievement in school (Lewelling, 1991).

Culturally and linguistically diverse (CLD) – A term used to describe students whose native languages and cultures are different from those of the dominant-group (Herrera & Murry, 2005).

English language learner (ELL) – A term to describe a student whose native language is one other than English and who has not yet mastered fluency in English (Chamot & O'Malley, 1994).

English as a second language (ESL) – "A programming model in which linguistically diverse students are instructed in the use of English as a means of communication and learning. This model is often used when native speakers of multiple first languages are present within the same classroom" (Herrera & Murry, 2005, p. 9).

ESL pullout – A language programming model in which CLD students are "pulled out" of the regular content-area classroom for English language instruction (Karathanos, 2005).

Guarded vocabulary – "Language in which the speaker makes a conscious effort to enunciate words, simplify sentence structure, speak a little more slowly, emphasize key information, and pause momentarily between sentences and main ideas" (Herrera & Murry, 2005, p. 370).

Integrated content-based (ICB) instruction – "A communicative method that involves the concurrent teaching of academic subject matter and second language acquisition skills. This method often employs thematic units as well as content and language objectives across subject areas" (Herrera & Murry, 2005, p. 9).

Limited English proficient (LEP) – A term used to describe individuals who do not speak English as their primary language and who have a limited ability to understand, speak, read, or write English (Herrera & Murry, 2005).

Scaffolding – "The use of supporting aids and activities that enable the student to perform tasks that would otherwise be too complex for his or her abilities" (Herrera & Murry, 2005, p. 371).

Sheltered instruction (SI) – A method of instruction used to enhance CLD students' learning in content-area classrooms by providing students with affective, linguistic, and cognitive support. This method is grounded in constructivism, the

communicative approach, and second language acquisition theory (Echevarria et al., 2004; Herrera & Murry, 2005).

Teachers of English to Speakers of Other Languages (TESOL) – The international professional organization for ESL educators.

Summary

In an era characterized by increased diversity in U.S. classrooms and accountability for the academic progress of all students, there is a distinct need for programs and practices that will increase content-area learning and language development of ELL students. The extraordinary successes of ICB, CALLA, and SI programs indicate that integrating content and language objectives is likely to significantly improve the academic performance of ELL students. Therefore, it is critical that high school teachers are knowledgeable about and implement content and language objectives in their classrooms.

This study examined the perceived levels of knowledge of content and language objectives among content-area teachers of a selected group of high schools in Kansas. This study also explored the degree to which these teachers perceive that they value implementing content and language objectives in their instruction. Finally, this study examined how several demographic characteristics of these high school content-area teachers were associated with the teachers' responses about their knowledge and value of implementing content and language objectives.

Chapter 2

Review of the Literature

This chapter is designed to provide the reader with an understanding of the literature and research in the field that surrounds the use of content and language objectives in instruction to enhance the academic success of ELL students. Toward this end, the discussion in this chapter encompasses the following issues: (1) standards-based reform in education, (2) the impact of changing demographics, (3) promising programs, and (4) the implementation of content and language objectives.

Standards-Based Reform

As the world has changed from an industrial age to an era where work places ask individuals to solve problems that require higher-order thinking, plan their own tasks, evaluate results, and work cooperatively with others, the need to improve educational performance in the United States has become more urgent than ever (Lachat, 2004). The standard-based educational reform has been driven by the belief that all children can learn at high levels, given the necessary time, tools, teaching, and encouragement, and that all children can become successful, productive members of society (Lachat, 2004).

McLaughlin and Shepard (1995) have defined standard-based education as setting the standards of performance in academic subject areas as a means of improving the substance of school curricula and increasing the motivation and effort of students,

teachers, and school systems and thereby improving student achievement. In January 2001, President Bush and Congress began a major rewrite of federal education aid and proposed significant reforms to the Elementary and Secondary Education Act (ESEA). The No Child Left Behind (NCLB) Act was designed to change the culture of American schools by closing the achievement gap and teaching students using proven practices (U.S. Department of Education, 2006). Under NCLB, all schools and school districts are held accountable for the "adequate yearly progress" of all major student groups (e.g., groups comprising racial and ethnic minority students, students from low-income families, students with limited English proficiency, or students with disabilities) toward becoming "proficient" against state academic standards. NCLB requires 100% of students to be proficient by 2014. All major student groups must make annual progress for schools and districts to succeed. Failure to make annual progress in two consecutive years necessitates federal aid for improvements. Persistent failure over the following three years requires additional improvements, progressively greater corrective action, and then complete restructuring. Standards are, therefore, the center of a federal accountability system directly focused on improving the quality of teaching and learning in American schools (Lachat, 2004).

Impact of Changing Demographics on Standards-Based Reform

As the number of students who are English language learners (ELLs) in U.S. public high schools increases each year, high school educators have been left with the

task of rethinking teaching and learning within their classrooms. The rush to find or develop the most effective curricula and provide instruction that facilitates both content and language learning has created a need for research-based models that lead to academic success, as well as language acquisition. The terms used to refer to high school students whose first language is not English has varied by researcher and political era. These students are discussed in the literature as culturally and linguistically diverse (CLD), English as a second language (ESL), and limited English proficient (LEP), which is the term most often used by the federal government. For the purpose of this study, the researcher will use the term ELL when discussing students whose native language is not English and who have not reached a sufficiently advanced level of English proficiency to fully participate in U.S. high school classrooms. As the debate continues over the best approach to take when educating this growing population, the need to clearly define best practice becomes more urgent than ever.

The Face of Cultural and Linguistic Diversity

The National Center for Education Statistics (NCES) (2005) reported that from 1979 to 2003, the number of school-age children whose home language is a language other than English grew from 3.8 million to almost 10 million. Moreover, although the total population of school-age children increased by only 19% from 1979 to 2003, the number of children who speak a language other than English at home increased by 161% (NCES). Given current growth rates and the arrival of 1.5 million immigrants each year,

a majority of Americans will be minority language speakers by 2044 (Camarota, 2002; Crawford, 2002).

Contrary to typical geographic distributions, the growing immigrant population is settling in non-traditional urban and rural communities. Therefore, educating immigrant children is no longer an issue specific to the inner cities or the east or west coast regions (NCSL, 2007). For example, over the past two decades Kansas has experienced a dramatic increase in students identified as speaking a language other than English. According to the Kansas State Department of Education (2006) 28% of students in Garden City, Kansas, are ELL students. The number is even greater in Dodge City, Kansas, where more than 41% of children enrolled in public schools are ELL students. Thus, mainstream content-area teachers, regardless of the states in which they teach, are more likely than ever to have students in their classrooms who have not reached a level of English proficiency needed for academic success.

The most marked increase in the ELL student population has been documented at the high school level, yet this population has received less attention and support than the elementary-level population (Ruiz-de-Velasco & Fix, 2000). Ruiz-de-Velasco and Fix have noted that 76% of ELL students in elementary schools receive specialized instruction according to their needs, while only 42% of junior high and 48% of high school ELL students are offered appropriate language learning instruction.

Teacher Preparation

According to a survey conducted by NCES, 41.2% of almost three million public school teachers are currently teaching ELL students in their classrooms (NCES, 2002). Yet only 12.5% of teachers who have ELL students in their classroom have had eight or more hours of professional development designed to prepare them to serve these students (NCES, 2002). In addition, approximately 57% of all public school teachers feel that they are ill prepared to teach ELL students and need more information to be able to support these students in achieving high standards (Alexander et al., 1999).

As Sparks and Hirsh (1997) noted, without significant professional development and training, most teachers depend on the instructional methods with which they were taught when they were students. Considering the fact that almost 90% of teachers in the United States are European-American who have been overwhelmingly socialized in dominant-culture surroundings and who have never resided in a community farther than 100 miles from where they were born and raised (Cushner et al., 2006; NCES, 1998), the instructional approach of the majority of teachers is highly likely to reflect the needs of native-English-speaking students who share dominant-culture characteristics (Goddard, 1997). Although the majority of ELL students spend most of their school days in content-area classrooms, their teachers frequently have little or no knowledge of how to provide suitable instruction for them, and these teachers feel inadequately prepared for the task

(Cushner et al., 2006; Escamilla, 1999; Herrera & Murry, 2005; Krashen, 1996; Miramontes et al., 1998).

In spite of the findings of a number of researchers showing the significant difference that teacher quality makes in student achievement (Darling-Hammond, 2000; Ferguson, 1998; Goldhaber, 2002; Goldhaber, Brewer, & Anderson, 1999; Hanushek, Kain, & Rivkin, 1999; Marzano, 2003; Wenglinsky, 2002; Wright, Horn, & Sanders, 1997), school systems have not provided sufficient professional development to improve teachers' ability to teach ELL students (Fillmore & Snow, 2000; Gonzalez et al., 2006). According to a study conducted by Killen, Monk, and Plecki (2002), the typical school district spends less than 10% of its budget on professional development or in-service programs. Moreover, because many staff development programs are one-shot workshops that lack the comprehensiveness and continuity needed to make a difference (Clair, 1995), many teachers remain ill equipped to provide appropriate instruction to ELL students even after completing the professional development (Krashen, 1996; Miramontes et al., 1998). This lack of preparedness of school educators has had dismal repercussions for high school students who have limited English proficiency.

High Schools in Transition

According to NCES (2005), even though the number of ELL students has grown dramatically over the last few years, the academic achievement level of these students in high school has lagged significantly behind that of their native-English-speaking peers.

High school ELL students face a number of challenges in their pursuit of academic success in high school and beyond. Although many educators expect that high school ELL students will be able to "survive," these students are often trying to learn within a very complex system for which they are ill prepared. In reality, some students may bring interrupted or no prior schooling, a lack of advanced literacy skills in their native language—let alone in English, or prior schooling experiences that involved teaching methods that differ from those used in the United States. Other factors such as age of arrival, low socioeconomic status of family, and lack of parental supports have hindered many high school ELL students from adjusting to the new school environment and achieving academic standards at levels similar to those of their native-English-speaking peers (Echevarria & Graves, 2007; Echevarria et al., 2004; Herrera & Murry, 2005; Lachat, 2004; Ruiz-de-Velasco & Fix, 2000).

In addition, Gonzalez and his colleagues (2006) point out that most textbooks used in content-area classrooms are not suitable for ELL students. Rather, most of these textbooks reflect the needs of native-English-speaking students and heavily depend on students' advanced English literacy skills (Chamot & O'Malley, 1994). ELL students who do not possess high levels of academic language proficiency may not be able to comprehend the context-reduced language (Gonzalez et al., 2006). Moreover, the specialized academic vocabulary may not allow ELL students to utilize their prior knowledge unless the classroom teacher provides explicit scaffolding. Driven by content standards, textbooks are often structured to cover an insurmountable amount of

information, with little or no hands-on activities. Adherence to such textbooks leaves teachers with very little time or guidance for supporting ELL students in their classrooms (Gonzalez et al., 2006).

As Kindler's data collected from 45 states suggests, most ELL students in grades 7 to 12 are not doing well (Kindler, 2002). In the 2000-2001 academic year, almost 10% of ELL students failed to move to the next grade, even though their attendance rate was higher than that of their native-English-speaking peers (Kindler). About 21% of Hispanic ELL students between the ages of 16 and 19, who composed 79% of the ELL population, dropped out of high school compared to 12% of African American students and 8% of White students. Due to a lack of English proficiency, most ELL students feel excluded and isolated in classrooms where instruction is given in English with little or no accommodation or differentiation in instructional support to meet their needs (Gonzalez et al., 2006).

Although it could be highly effective for all ELL students to receive instruction in their first language while learning academic content (Bialystok, 1978; Collier, 1987; Cummins, 1981), providing qualified bilingual teachers to each ELL student is simply not feasible. Approximately 460 different languages are spoken among ELL high school students (Kindler, 2002). Therefore, it is now urgent for educators to develop curricula and instructional methods that include ELL students in grade-level classrooms and accelerate their academic achievement while also enhancing their English language skills.

Promising Programs

Thorough investigation of the literature in the field has led to the researcher's identification of three prominent educational methods that can be used effectively with ELL students: integrated content-based (ICB) instruction, the cognitive academic language learning approach (CALLA), and sheltered instruction (SI).

Integrated Content-Based Instruction

Integrated content-based (ICB) instruction is a method of instruction grounded in the communicative approach to language learning that began as early as the 1960s (Blair, 1982). In communicative language instruction, the lesson objectives reflect the functional and linguistic needs of the learners, because the underlying belief is that language cannot be learned unless it is meaningful for the learners (Blair, 1982; Terrell, 1991). This teaching method emphasizes activities involving real communication, meaningful tasks, and language use that is meaningful to the learners (Diaz-Rico & Weed, 2002).

The ICB method acknowledges both the importance of the interrelation between language and content learning and the need for language and content to be taught simultaneously (Cummins, 1996, 2000; Freemen & Freeman, 1998; Freeman, Freeman, & Mercuri, 2002; Thomas & Collier, 1999). Research within the field of second language acquisition further supports the integration of language instruction with other subject matter (Krashen, 1981, 1982, 2003). Snow, Met, and Genesee (1989) precisely noted that

language could be most effectively acquired through meaningful and purposeful social and academic contexts.

Effective content-based instruction teaches language through academic content organized in thematic units, which allow ELL students to utilize their background knowledge or cultural experiences in learning (Cummins, 1996, 2000; Curtain & Haas, 1995; Freeman & Freeman, 1998; Freeman, Freeman, & Mercuri, 2002; Grabe & Stoller, 1997; Herrera & Murry, 2005; Thomas & Collier, 1999). Research has shown that content-based instruction promotes language learning, content learning, motivation, and interest of ELL students by providing a meaningful context for communication (Grabe & Stoller, 1997). In an integrated approach, instruction is usually given by a language teacher or by a combination of the language and content teachers (Crandall, 1994). To maximize the effectiveness of ICB instruction, the language aspect of the lesson should be carefully planned and carried out (Snow et al., 1989).

ICB Instruction Framework

The framework of ICB instruction comprises four components: (a) language embedded in context, (b) instructional materials, (c) preteaching key vocabulary and building background, and (d) cooperative learning and small group activities. In order to create a context for ELL students' language learning and content understanding, a teacher using ICB elaborately incorporates language instruction in the academic content instruction by choosing a theme from the content-area curriculum, identifying a topic

relevant to the theme, and creating language and content objectives (Herrera & Murry, 2005). ELL students cannot improve their English proficiency by simply learning the academic content. Rather, the language and content curricula must be deliberately coordinated (Snow et al., 1989). Content and language objectives inform students of the content that should be learned and the language aspects that should be mastered by the end of the lesson. When developing content and language objectives, a teacher should be fully aware of the linguistic challenges and stages of second language acquisition through which ELL students progress.

Based on the objectives of the lesson, the teacher gathers a variety of authentic materials, such as printed texts, audio and video records, pictures, graphic organizers, and hands-on materials to support the meaning of the text, taking the students' interests, cultures, development levels, experiences, learning styles, and needs into consideration (Tedick, Jorgensen, & Geffert, 2001). To maximize ELL students' comprehension of content material, the teacher preteaches key academic vocabulary that is critical to students' understanding of the lesson (Herrera & Murry, 2005). Preteaching key vocabulary not only helps students understand the text but also enables students to connect the new words with their prior knowledge. During ICB instruction, teachers draw on students' prior knowledge and experiences to make new information meaningful and comprehensible (Brinton et al., 1989; Freeman, Freeman, & Mercuri, 2002; Grabe & Stoller, 1997; Herrera & Murry, 2005; Lin, 2004; Met, 1991).

During ICB lessons, the teacher allows students to work in small collaborative groups, which create a low-anxiety environment that is optimal for learning language (Dulay, Burt, & Krashen, 1982; Krashen, 1981, 2003). Small group activities promote meaningful interaction and positive interdependence among group members as well as students' use of specific language to accomplish a task (Kagan, 1986; Genesee, 1994). Cooperative activities provide ELL students with opportunities to both practice language and clarify their understanding of the topic or content concepts (Kagan, 1986).

ICB Success: International High School, NY

In 1988, the 310 students in New York's International High School had come from 37 nations speaking 32 languages, had resided in the U.S. for less than 4 years, and had fallen below the 20th percentile on an English proficiency test. Although all of the students were considered "high risk," their attendance rate was 90% (compared to the city average of 80%). In addition, the dropout rate at this school was only 3.9%, while it was almost 30% citywide. By 1994, all 54 seniors in this high school were graduating and starting college (Ancess & Darling-Hammond, 1994).

ICB instruction played a part in this success. International High School provides lessons organized by themes that are used to teach ELL students essential skills and information. The students develop English language skills through meaningful engagement with academic content during each lesson. Students have ample opportunities to interact with peers in small groups using both English and the native

language to work on tasks that are systematically developed to facilitate discussion and interaction (Ancess & Darling-Hammond, 1994).

Sheltered Instruction

Although ICB instruction has been used effectively to increase ELL student achievement, given the shortage of qualified ESL teachers and the urgency of ELL students' need to attain linguistic and academic achievement, ICB programs have not been able to sufficiently support all ELL students in meeting rigorous standards (Echevarria et al., 2004). Grounded in constructivism, the communicative approach, and second language acquisition theory, the sheltered instruction (SI) method was developed to enhance ELL students' learning in content-area classrooms by providing students with affective, linguistic, and cognitive support (Echevarria et al., 2004; Herrera & Murry, 2005).

SI is grounded in constructivism (Vygotsky, 1978), which posits that comprehension takes place through the process of elaborating and integrating new information into the existing knowledge network (Krashen, 1982, 2003). The SI method also promotes meaningful interaction between the teacher and the students as well as interactions between students. This communicative approach to instruction creates a friendly atmosphere for the ELL students to carry out meaningful tasks, which facilitate the development of language (Blair, 1982; Echevarria et al., 2004; Terrell, 1991). As Krashen (1977, 2003) noted in his affective filter hypothesis, language learning takes

place best when the learner feels safe and comfortable. Teachers using SI maximize the use of students' prior knowledge, cultural background, and native language to enhance the confidence and motivation of students.

Second language acquisition theory also provides teachers using SI with guidance regarding the appropriate level of content difficulty for ELL students. Krashen (1977, 2003) suggested that input should be just beyond the current level of the learners' comprehension and competency. Therefore, teachers applying the SI method introduce new vocabulary and concepts using simplified speech or visual cues to aid ELL students (Echevarria & Graves, 2007). In addition, Krashen's natural order hypothesis posits that second language learning takes place in a manner very similar to first language acquisition. Teachers implementing SI, therefore, understand the development sequence in language acquisition and are aware of the stages of second language acquisition—preproduction, early production, speech emergence, intermediate fluency, and fluency (Krashen, 1982, 2003). Such teachers design their instruction taking into account students' proficiency levels in order to best accommodate the needs of their ELL students (Echevarria et al., 2004).

The primary goal of SI is to make grade-level content understandable for ELL students who have limited or no English proficiency while promoting their development of English skills (Echevarria & Graves, 2007; Echevarria et al., 2004; Herrera & Murry, 2005). This method of instruction requires significant teaching skills in both English language development and academic content-area instruction that incorporates clearly

defined language and content objectives, modified curricula, supplementary materials, and alternative assessments (Echevarria et al., 2004).

Common Themes in SI

SI emphasizes the following themes: (a) hands-on learning, (b) cooperative learning, (c) guarded vocabulary, (d) visuals, (e) clearly defined content and language objectives, and (f) scaffolding. SI values hands-on learning situations that provide students with various ways to clarify new concepts or to demonstrate what they have learned. SI lessons continually provide students with opportunities for interaction and discussion with the teacher, or with individual students or groups of students. Working collaboratively, students develop positive interdependency with peers and use meaningful communication to carry out tasks.

Teachers implementing SI use guarded vocabulary by consciously controlling their use of language during the lesson. These teachers use simplified vocabulary and syntax, appropriate repetition, a slightly slower rate of speech, and frequent pauses between phrases. As ELL students' comprehension of the material increases, the teachers adjust their speech, using more complex language to reflect the students' increased linguistic comfort with the topic. Teachers using the SI method also utilize abundant visual materials such as graphic organizers, realia, overheads, models, multimedia presentations, and so forth in order to make information accessible to ELL students.

Teachers implementing SI plan each lesson incorporating objectives that reflect

content and ESL standards. Teachers consciously integrate English language instruction with content instruction. They clearly inform students of the objectives and use learning activities to achieve the objectives. By the end of the lesson, teachers using the SI method assess students' achievement and progress toward attainment of the content and language objectives.

To provide ELL students with cognitive supports as they learn the content-area material, the SI method explicitly emphasizes the "scaffolding technique" (Herrera & Murry, 2005). Through scaffolding, students learn with structured tasks that guide them step-by-step through the process of gathering, evaluating, and synthesizing information. These tasks are designed to provide challenging linguistic input and to teach various learning strategies as well. As the students become familiar with effective learning strategies and techniques, they are encouraged to explore the topics in a less structured and more self-directed manner. Thus, scaffolding provides ELL students with tasks or input through which they can progress naturally to the autonomous stage of learning (Echevarria et al., 2004; Herrera & Murry, 2005).

Variations of SI

Although most variations of SI incorporate the previously mentioned themes, there are some distinctions that make each variation unique. Two widely recognized variations of SI are the *sheltered instruction observation protocol* (SIOP) model (Echevarria et al., 2004) and *specifically designed academic instruction in English*

(SDAIE) (California State Department of Education, 1994).

SIOP is a model of SI that promotes ELL students' academic knowledge and achievement, cognitive learning skills, and English proficiency. Components of SIOP include: (a) preparation, (b), instruction, (c) practice and application, (d) lesson delivery, and (e) review and assessment.

During preparation, proactive teachers using SIOP carefully plan each lesson by integrating content and language objectives and selecting main concepts that are appropriate to the subject as well as the students' level of background knowledge. Teachers also gather sufficient supplementary materials and develop meaningful activities to enhance the students' academic, cognitive, and linguistic development, taking into consideration all four literacy domains—listening, speaking, reading, and writing.

During instruction, teachers implementing SIOP emphasize key vocabulary and help students' make connections between their prior knowledge and experiences and the new information. In SIOP lessons, teachers also encourage students to use metacognitive strategies such as planning and self-monitoring. Teachers provide students with ample opportunities to interact and discuss with peers.

Practice and application is an essential component of SIOP. To help students internalize new information, teachers provide students with hands-on materials, manipulatives, and activities that require the students to use all domains of language. SIOP lessons incorporate projects and real-life scenarios through which the students can apply content concepts and newly acquired language.

Throughout the delivery of a SIOP lesson, teachers support both content and language objectives by providing students with appropriate scaffolding to ensure that all students are engaged in the lesson. Teachers using the SIOP model are aware of the differences in content knowledge and language proficiency among students and they accommodate students' assets and needs.

Teachers implementing SIOP understand the importance of reviewing key concepts and vocabulary, and throughout the lesson they conduct both formal and informal assessments of students' progress toward mastery of the content and language objectives. Students are provided ongoing feedback about their learning outcomes.

SDAIE is a variation of SI that is especially popular in California. SDAIE is used to teach academic content to ELL students with intermediate and advanced levels of English proficiency. SDAIE emphasizes comprehensible input, guarded vocabulary, hands-on interaction, and the use of supplementary materials such as visual aids or manipulatives. The essential components of SDAIE are (a) goals and objectives, (b) cooperative learning, (c) modified instruction, and (d) multifaceted assessment. SDAIE integrates content and language instruction; however, as it reflects the needs of learners with higher levels of language proficiency, it does not provide sufficient instructional support for students with beginning levels of English proficiency.

SI Success: Ontario High School, OR

The educators and administrators of Ontario High School in Oregon have adopted SI in their curriculum to improve the academic achievement and graduation rate of ELL students, who constitute 25% of the total student population (approximately 11,000 students). With a title III grant received in 2001, the school provided Spanish language course for all teachers, trained all faculty members in SI strategies, and provided an in-service program on cultural awareness (NWREL, 2003).

After acquiring an intermediate level of English proficiency, the ELL students were placed in content-area classrooms where the SI method was applied. A year after the grant was received, the ELL students showed an increase of at least seven RIT points in both math and reading (NWREL, 2003).

CALLA

The *cognitive academic language learning approach* (CALLA) (Chamot & O'Malley, 1994) to second language instruction makes use of students' cognitive language learning and comprehension strategies. This method is grounded in the study of cognitive processes used by language learners. For example, the cognitive approach makes use of the learners' prior knowledge to aid their comprehension and is based on research from cognitive psychology regarding the role of schemas in understanding and information retention.

In the 1980s, O'Malley and Chamot conducted research on ELL students, who were acknowledged as a successful learners by their teachers, in order to identify the

learning strategies used by high-achieving language learners (O'Malley & Chamot, 1990; O'Malley, Chamot, Stewner-Manzanares, Russo, & Kupper, 1985a, 1985b). Based on this research, they concluded that learning strategies could be taught. Later the researchers developed the CALLA method to provide educators with a framework for accelerating ELL students' CALP development (Chamot & O'Malley, 1994). CALLA is a task-based instructional method that aims to empower ELL students to develop their own learning strategies and to control their own cognitive processes (Bérubé, 2000; Chamot & O'Malley, 1994; Herrera & Murry, 2005). As students become familiar with effective learning strategies and techniques, they are encouraged to explore topics in a less structured and more self-directed manner. Thus, CALLA provides the context for students to progress naturally through the cognitive, associative, and autonomous stages of learning.

Teachers implementing the CALLA method use materials drawn from major content areas (e.g., science, history) to develop students' academic language skills and to provide direct instruction in learning strategies. Chamot and O'Malley (1994) believe that this type of instructional program maximizes the ELL students' acquisition of both language and content knowledge.

CALLA Components

The CALLA method puts great emphasis on four components (Bérubé, 2000; Chamot & O'Malley, 1994; Herrera & Murry, 2005). First, the content topic is aligned

with grade-level curricula that ELL students will encounter after they exit an ESL program and are placed in regular grade-level classrooms. Second, all four domains of language—speaking, listening, reading, and writing—are included in daily lessons. Third, through cognitively demanding activities, ELL students develop academic language skills in English that are needed to persuade or justify their opinions, analyze problems, evaluate results, and make predictions. Fourth, explicit learning-strategy instruction is emphasized.

ELL students are taught four types of learning strategies: cognitive strategies, metacognitive strategies, social/affective strategies, and crosslinguistic strategies (García, 1998; Herrera & Murry, 2005; Jimenez, García, & Pearson, 1996). Cognitive strategies enable learners to manipulate information by categorizing, summarizing, or linking new concepts to prior knowledge (Chamot & O'Malley, 1994). By utilizing metacognitive strategies, learners determine which learning strategies are best suited to a given task (Flavell & Wellman, 1977). Social/affective strategies enable learners to control their emotions in order to lower anxiety, motivate themselves to question, and work with others to collect information, negotiate meaning, better understand content material, and develop language skills naturally (Chamot & O'Malley, 1994). Finally, crosslinguistic strategies help learners draw on their prior knowledge of the native language to understand information in English. Unlike monolingual students, bilingual learners tend to have unique way of negotiating meaning. Some bilingual learners find it more effective to paraphrase text, while others tend to translate word by word. Code switching

and cognate recognition are often found among learning strategies that more successful bilingual learners use (Herrera & Murry, 2005).

CALLA Lesson Planning

Teachers implementing the CALLA method incorporate five sequential instructional phases in their lesson plans: (a) preparation, (b) presentation, (c) practice, (d) evaluation, and (e) expansion (Chamot & O'Malley, 1994). In the preparation phase, teachers provide students with an overview of the lesson theme and guide students to think about what they already know about the topic. The teachers explain the outcome students should accomplish by the end of the lesson. Effective teachers clearly post the content, language, and learning strategy objectives so the students know what they will learn, why the concepts and skills are important for the lesson, and how they will accomplish the learning. When planning each lesson, teachers are aware of the language used in the objectives and choose language that reflects the higher-order thinking required to accomplish the outcome of the lesson.

In the presentation phase, after the general presentation of the new concept, teachers employ different presentation modes, such as visual, aural, and kinesthetic, so that all students, regardless of their preferred learning style, can understand the new concepts. In the practice phase of a CALLA lesson, students engage in hands-on and cooperative learning activities, through which the students learn content knowledge from each other as well as expand their language through interaction with peers. Teachers

group together students with varying degrees of academic knowledge and English proficiency.

In the evaluation phase, students check the level of their performance and the effectiveness of the learning strategy they implemented during the lesson. The final phase of a CALLA lesson is the expansion. In this period, students are encouraged to apply the new information and skills to a meaningful activity or an existing real-life problem.

Through CALLA instruction, ELL students develop academic language proficiency while they learn to apply the learning strategy that best matches their cognitive learning style as well as the assigned project. Eventually, students are able to transfer the strategy to a new task (Bérubé, 2000; Chamot & O'Malley, 1994; Herrera & Murry, 2005).

CALLA Success: Arlington School District, VA

Some of the most successful schools implementing CALLA in their curricula are the public schools in Arlington, Virginia. Arlington school district, for which 20% of the total 16,800 students are ELL students, many of whom come from low a socioeconomic level, has shown significant annual increase in student achievement for mathematics and science since adopting CALLA (Chamot, 1995). The Arlington curriculum was developed to integrate the math and science content with language and learning-strategy instruction. Thematic units provide teachers with a sequential guideline and the essential

topics, and the units include ways to apply the information in future lessons as well as ways students can apply their learning on the state minimum competency examination.

The Arlington school district reported a significant increase in students' achievement for mathematics in the subtests of the California Achievement Test on Computation, Concepts, and Application. The students showed an average gain of 7 national curve equivalents (NCEs) for computation and 10 NCEs for math concepts and application. To evaluate the effectiveness of the CALLA program for science, a longitudinal study was conducted to track the students' progress. While only 29% of the comparison group reached the criterion, 54% of high school students in a CALLA program met the criterion (Chamot, 1995).

Implementing Content and Language Objectives

All the instructional methods and models heretofore discussed emphasize the importance of implementing both content and the language objectives in order to maximize the learning outcomes of ELL students. Although content objectives have been commonly adopted by teachers for many years and most teachers learn about the importance of implementing content objectives from the beginning of their professional preparation, language objectives have not been acknowledged or studied until recently, when the need for integrating content and language instruction came to light.

Content Objectives

Mager (1962) once noted that clearly identified objectives empower students to organize their efforts into relevant activities and to focus on the subject that is necessary for success. When the objectives are distinctively posted or relayed, students can evaluate their own progress at any time during instruction and choose the activity that best suits their learning needs (Mager, 1962).

The purpose of identifying the content objectives is to inform students in advance of what they should know and be able to do after the lesson (Mager, 1984). Clearly defined objectives also provide the basis for the selection of the instructional methods, content, and materials. Without clearly defined objectives, it is difficult for teachers to choose the appropriate means for achieving the goal of the lesson. Moreover, without clearly defined objectives, teachers have no way of measuring whether the objective of the lesson was achieved (Echevarria et al., 2004; Gronlund, 1973, 2004; Mager, 1984).

Content objectives should be aligned with national, state, or local grade-level content-area standards (Echevarria et al., 2004). When creating content objectives, teachers use measurable action verbs such as "list" or "identify." If the verbs used in the content objectives are too general or broad, such as "know" or "understand," the objectives often can be interpreted in multiple ways and it will be difficult to measure the level of students' achievement (Gronlund, 1973; Mager, 1984). On the other hand, if the content objectives are stated too specifically, the list of objectives will be extremely long,

and the lesson will become more like a scheduled training than an educational lesson (Snow et al., 1989).

Effective teachers ensure that objectives are stated with simple and straightforward words that are comprehensible for ELL students (Echevarria et al., 2004; Herrera & Murry, 2005). In addition, when creating content objectives for ELL students, teachers consider the students' academic language proficiency levels, cognitive and academic needs, and prior knowledge on the subject. Other factors teachers take into consideration include the method through which the subject was taught in the ELL students' native countries as well as the degree to which the concepts are needed for the ELL students' future learning (Herrera & Murry, 2005).

Language Objectives

As the student population grows increasingly diverse each year and the percentage of the ELL students in the public schools continues to increase, it is highly likely that all teachers, regardless of their teaching subject, will have ELL students in their classroom. Therefore, all teachers should consider each content lesson to be a language lesson as well. Language objectives function as the bridge between the content lesson and the language instruction (Chamot & O'Malley, 1994; Echevarria et al., 2004; Gonzalez et al., 2006; Herrera & Murry, 2005). Language objectives should reflect the language that is required for students to develop, master, and communicate about the subject being taught (Met, 1991). Through the language objectives, students learn to

focus on vocabulary, reading comprehension, the writing process, and so forth, improving all four language domains (Herrera & Murry, 2005; Snow et al., 1989).

When developing language objectives, effective teachers analyze the language demands of their lessons. They consider what the students need to be able to do with language in order to accomplish the lesson objectives. For example, a science teacher covering the concept of cause-effect relationships might have students practice the subjunctive mood using "should," "would," and "could." In a history class, the teacher might have students practice using the past tense.

The language objectives should be derived from (a) the second language curriculum, (b) the content-area curriculum, and (c) assessment of the learners' academic and communicative needs and continuing evaluation of the students' language skills (Met, 1994). Language objectives can be divided into two categories: content-compatible and content-obligatory (Snow et al., 1989).

Content-compatible language is that which adds to a lesson but is not essential. For example, a science teacher can teach the concept of the scientific method without students memorizing the term "hypothesis." However, content-obligatory language is that which must be understood in order to understand the concept. For instance, a student cannot understand the concept of *rain* without first understanding the concepts of *water* and *cloud*. Therefore, teachers must decide which concepts are content-compatible and which are content-obligatory (Numelin, 1998; Snow et al., 1989).

Once decisions about critical language have been made, teachers next must decide how to embed concepts. Concepts that are "context-reduced" are not well supported by visuals, graphs, or other methods of representation (Cummins, 2000). On the other hand, concepts that are "context-embedded" are scaffolded and well supported by other methods of information transmission, such as pictures, demonstrations, and concrete activities (Herrera & Murry, 2005). The use of visuals and demonstrations in science lessons are not supplemental to ELL students. These methods of representation are often the primary sources of information for these students. Consequently, teachers must carefully analyze visual materials for congruency with their lesson objectives.

When creating language objectives, teachers also decide if the objectives are cognitively demanding or cognitively undemanding. Objectives that are cognitively demanding definitely should be context-embedded (Verplaetse, 2002). On the other hand, objectives that are cognitively undemanding and that are likely familiar to the students can provide opportunities for students to use language that is context-reduced. However, ELL students should never be faced with material or objectives that are cognitively demanding and context-reduced (Verplaetse, 2002).

Because ELL students vary in their facility with BICS and CALP, students with different levels of English proficiency need different types of objectives. Therefore, effective teachers adjust the complexity and the difficulty of the language objectives, taking each ELL student's level of English acquisition into account (Echevarria et al., 2004). Students who are at a beginning level need objectives that are more concrete and

that allow for nonverbal demonstrations, role plays, and sentence completion (Verplaetse, 2002). ELL students at intermediate levels who have developed BICS can work with objectives that are more abstract, while using concrete referents. These students also can make excellent use of cooperative learning activities and small-group discussions. Finally, objectives targeted for ELL students with advanced levels of BICS should be focused on CALP development. At this point, teachers determine how ELL students, based upon their levels of language proficiency, will accomplish the lesson objectives and demonstrate their understanding for assessment purposes.

Because content-area instruction requires more complicated and cognitively demanding language, ELL students should be guided to develop higher levels of literacy, including an understanding of English phonology, morphology, syntax, semantics, and pragmatics, so they are able to read and comprehend academic text (Echevarria & Graves, 2007). Moreover, the language used in each subject area has its own specific terminology. For ELL students to be highly successful in a grade-level classroom, they need to not only be able to understand the content material but also be proficient enough in English to demonstrate their knowledge, negotiate their opinions, and question for clarification.

Summary

This chapter presented current demographics of immigrants and diversity statistics in U.S. high schools, discussed standards-based reform, and explored the

difficulties faced by high school ELL students. The following three prominent programs acknowledged as effective for facilitating ELL students' academic achievement as well as language learning were then presented: ICB instruction, SI, and CALLA. As these three programs in common emphasize the importance of developing and implementing content and language objectives, this study is designed to explore teachers' knowledge and value of implementation of such objectives.

Chapter 3 details the methodology used to gather survey information from high school content-area teachers regarding their current knowledge of content and language objectives as well as the degree to which they value implementing these objectives in their classroom instruction.

Chapter 3

Methodology

This chapter describes the research methodology used in this study. The purpose of this study was to address the gap in research regarding teachers' knowledge and value of implementation of content and language objectives. Therefore, this quantitative study explored the self-reported knowledge of high school content-area teachers regarding the role of content and language objectives in the instruction of ELL students. In addition, this study examined the perceptions of these teachers regarding the degree to which they value implementation of these objectives. This discussion includes: (1) restatement of the research questions, (2) research design, (3) description of site and sample, (4) data collection procedures, (5) compliance with the institutional review board, (6) data analyses used, (7) reliability of the study, and (8) validity of the study.

Research Questions

This study is designed to answer the following questions:

1. To what extent are content-area teachers of a selected group of high schools knowledgeable about the concept and the role of content and language objectives in ELL students' achievement in a content-area classroom?
2. To what extent do content-area teachers of a selected group of high

schools value content and language objectives in their current instruction?

3. How are several demographic characteristics of content-area teachers of a selected group of high schools associated with their responses about their knowledge and value of content and language objectives?

The researcher hypothesized that this study would demonstrate that high school content-area teachers are very knowledgeable about content objectives but not aware of the concept of language objectives. The researcher also hypothesized that the high school content-area teachers develop clearly defined content objectives in their classrooms but are not familiar with developing language objectives.

Research Design

A quantitative research design was chosen for this study because a survey instrument was deemed most appropriate for gathering information needed to answer the research questions. An understanding of teachers' self-perceived knowledge levels and perceptions about the value of content and language objectives can be quickly and easily determined through the use of a self-reporting instrument. Therefore, the study was designed to solicit responses from content-area teachers in four Kansas high schools.

Site and Sample

The survey sites chosen for this study were four high schools in Kansas. In order to minimize random error, the sites were purposefully chosen based on the diversity and the percentage of ELL students reflected in their student populations (see Table 1). All teachers in this purposeful sample work in schools that have a relatively high (15-45%) ELL enrollment and that have a high percentage of teachers taking graduate-level ESL courses. Demographic data for each site was collected from the Kansas Department of Education and from the Public School Review website (www.publicschoolreview.com).

Table 1

Study Site Demographics

	School A	School B	School C	School D	State average
Total students	1185	1700	1670	1295	
% Asian	5%	2%	Reported as part of "Other" (6%)	4%	2%
% Hispanic	39%	32%	43%	26%	11%
% Black	28%	3%	16%	60%	10%
% White	27%	62%	35%	10%	75%
% ELL	20%	15%	16%	16%	6%

The sample for this study included all certified content-area teachers who had classroom teaching assignments during the 2006-2007 academic year (n= 367) at the four survey sites: School A (n= 75), School B (n= 99) , School C (n= 118), and School D (n= 75).

Data Collection

These teachers were asked to complete the *Survey of Teachers' Knowledge and Value of Implementation of Content and Language Objectives* (see Appendix A). This instrument was developed by the researcher through a comprehensive review of the literature on the concept and role of content and language objectives, as described in Chapter 2, and refined through two procedures detailed in discussion to follow.

Although the literature review informed the researcher of critical issues regarding the understanding and use of content and language objectives in the classroom, it resulted in the identification of no self-report instruments that specifically dealt with the research topic of this study. However, in the course of consulting the literature, the researcher identified one dissertation study that utilized a survey instrument to gather self-reported responses from administrators about their level of knowledge concerning standards and indicators necessary to be effective decision makers in a culturally and linguistically diverse school (Davila, 2006). This survey, combined with the researcher's understanding of current research related to content and language objectives, aided the researcher in phrasing the items of a survey instrument specific to the needs of this study.

The TESOL/NCATE Program Standards (TESOL, 2003) helped to guide the content of the items for this study's survey. The TESOL/NCATE standards comprise five domains: (1) language, (2) culture, (3) planning, implementing, and managing instruction, (4) assessment, and (5) professionalism. The standards and indicators of the *language*; *planning, implementing, and managing instruction*; and *professionalism* domains proved especially beneficial in the researcher's development of appropriate items for the *Knowledge* and *Value of Implementation* sections of the survey instrument (see discussion to follow).

Nature of the Survey

The researcher developed a 3-part survey constituting 32 items. In the first section, participants provided background demographic data (see Appendix A), which provided the independent variables for the study. This section of the survey asks about gender, race/ethnicity, teaching field, years of teaching, percentage of ELL students taught, hours of training received in ESL, and attainment of ESL certification. These questions were developed in order to investigate whether demographic characteristics are associated with the dependent variables. For example, by asking the participants about their teaching field, the researcher was able to collect the data needed to determine if there is a link between teaching field and the degree of knowledge and value of implementation of content and language objectives.

The *Knowledge* section of the survey investigates the extent to which high school content-area teachers are knowledgeable about the concept and the role of content and language objectives. Questions in the *Value of Implementation* section of the survey are intended to measure the frequency and degree to which high school content-area teachers are implementing content and language objectives in their instruction.

The assessment of teachers' perceived knowledge and value of implementing content and language objectives incorporates a five-point Likert scale with indicators ranging from "strongly agree" (5) to "strongly disagree" (1). The primary survey questions related to teacher knowledge ask about the degree to which teachers consider themselves knowledgeable about how research defines content and language objectives. The subsequent knowledge-related questions are included to obtain a more accurate understanding of the degree to which teachers are aware of practice-related aspects of the definitions of content and language objectives, as described by research in the field. For example, Question 16 asks about the degree to which teachers agree with the statement "I am aware that there are specific language needs (e.g., key content vocabulary, main concepts) for students who are learning the content I am teaching." This question is based on research (Met, 1991) indicating that language objectives should reflect the language that is required for students develop, master, and communicate about the subject being taught.

Similarly, the primary survey questions related to the value implementation of content and language objectives ask about the degree to which teachers believe it is

important to implement content and language objectives in their classrooms. The subsequent questions related to value of implementation are included to obtain a more thorough understanding of the degree to which teachers demonstrate in their practice the value they place on implementing content and language objectives, as described by research in the field. For example, Question 30 asks teachers to report the degree to which they agree with the statement "I post the clearly defined language objectives where all students can see them throughout the lesson." This question is based on research (Echevarria et al., 2004; Herrera & Murry, 2005) indicating that in order to maximize the effectiveness of language objectives, teachers must post the objectives where students can have visual access to them at all times throughout the lesson.

The survey instrument was reviewed by nine experts in the ESL field to determine the appropriateness, adequacy, and clarity of the survey items. All experts were working for the CIMA Center at Kansas State University as professors or instructors. The reviewers were asked to answer the following questions:

1. Are the questions/statements clear and understandable?
2. Would high school teachers understand and be able to answer the questions given the response options?
3. Based on your professional knowledge and experience, will the items in the survey yield the data needed to answer the study questions?
4. What suggestions do you have for improving the survey?

Any items that were identified by the reviewers as unclear or inappropriate to the study were edited for clarity, restated more appropriately, or removed. The survey was then sent back to the reviewers for a final review.

Pilot Study Using the Survey

The revised survey was distributed to 20 high school teachers in Junction City, Kansas. This site was chosen for the pilot study because of its diverse student population, the demographics of which are similar to those of the survey site student populations. The researcher explained to the content-area teachers that the purpose of the pilot study was to verify the clarity of the survey. Participants were asked not only to respond to each question, but also to evaluate the instrument by adding their opinions or suggestions for improvement at the end of the survey. The surveys were collected at the end of the meeting. Pilot study teachers recommended that directions be included to guide respondents to see the reverse side of the two-page support section of the survey. These teachers also suggested minor clarification of wording. Changes were made to the survey based on these suggestions.

Administration of the Survey

The researcher attended a staff meeting at each of the four school sites to distribute and collect content-area teachers' surveys. Participation in the study was completely voluntary. Instructions for survey completion and assurance of anonymity

were provided in the survey cover letter (see Appendix B). To enhance the response rate, participants were provided a small token of appreciation upon return of their completed surveys. The survey data was collected and compiled during August through December of 2006. Participant surveys were coded to ensure that all responses remained anonymous.

Compliance with Institutional Review Board

After the doctoral supervisory committee granted approval for the study, required materials were sent to the Kansas State University Institutional Review Board for Research Involving Human Subjects. Data collection did begin until approval was granted by the IRB. The honesty and integrity of information, results, and confidentiality was maintained throughout the course of this study. Anonymity of the participants was protected using coding and pseudonyms in collection and maintenance of records.

Data Analysis

Once the survey was completed, descriptive statistics were used to generate the mean, standard deviation, and frequency distribution of the demographics of the samples, which were independent variables of this study. For the items in the *Knowledge* section, a mean score of less than 3.0 was considered to demonstrate a lack of knowledge. For items in the *Value of Implementation* section, a mean score of less than 3.0 was considered to demonstrate a lack of valuing implementation. To answer Research Question 3, inferential statistics (one-way ANOVA) was used to investigate whether

demographic characteristics made a difference in the degree of knowledge and value on implementing content and language objectives. The demographic characteristics of teachers were set as independent variables and the grand total percent scores were set as dependent variables. Because of the researcher's specific interest in language objectives, and in order to assure the reliability of survey responses on the implementation of language objectives, the VILO section included nine questions rather than five. Therefore, the mean scores for each section—KCO, KLO, VICO, VILO, knowledge, value, CO, and LO—were converted to percent scores. Then, grand total percent score was calculated in order to apply one-way ANOVA. To test null hypotheses, alpha level was set at .05. A significance level larger than .05 indicated an insignificant difference and a null hypothesis was retained. If a null hypothesis was rejected and evidence showed that a significant difference existed, post-hoc/multiple comparison was applied to determine the specific difference. Table 2 summarizes the factors investigated using these data analysis procedure.

Table 2

Factors Explored through Data Analysis

Descriptive Statistics

- Knowledge on Content Objectives
- Knowledge on Language Objectives
- Value on Implementing Content Objectives
- Value on Implementing Language Objectives
- Knowledge on Content and Language Objectives
- Value on Content and Language Objectives
- Knowledge and Value on Content Objectives
- Knowledge and Value on Language Objectives

Inferential Statistics

- Grand total score by Respondent Gender
- Grand total score by Respondent Race/Ethnicity
- Grand total score by Respondent Teaching Field
- Grand total score by Respondent Years of Teaching
- Grand total score by Percentage of ELL Students Respondent Taught Last Year
- Grand total score by Hours of ESL Related Training
- Grand total score by Attainment of ESL Certification

Reliability

Reliability refers to a condition where a measurement process yields consistent scores over repeated measurements (Krathwohl, 2004). The reliability of a quantitative study depends on the internal consistency of the instrument and stability of the survey procedure (Krathwohl, 2004). To ensure the internal consistency of the survey, the primary survey questions (i.e., those designed to most directly answer the research questions) were included, and then these primary questions were broken down into additional questions, which were based on the definitions of content and language objectives. For example, Question 9 asks about teachers' knowledge of how research defines content objectives. To obtain a more accurate sense of the extent to which teachers are actually aware of the definition of content objectives, Questions 10-13 are included. These items are based on the definition of content objectives as described in research in the field.

To ensure stability of the survey procedure, the researcher disseminated the survey in person to the study participants. Specifically, the researcher met with the building principals at the study sites to discuss the purpose of the study, the proposed administration of the survey, and the date of the staff meeting at which the survey was to be administered. The researcher then attended the staff meetings to explain to the content-area teachers the purpose of the study and to inform them that their participation would be greatly appreciated. The researcher provided the explanatory cover letter and survey to teachers who were willing to participate. Because the cover letter clearly expressed that participation in the survey was completely voluntary, a consent form was not included. The researcher also personally collected the completed surveys. As soon as the participating teachers had completed their surveys, the researcher collected the surveys and gave the teachers a small token of appreciation.

Validity

Validity of a survey study requires the assurance of both internal and external validity. Internal validity is demonstrated when the study instrument measures what it is intended to measure (Krathwohl, 2004). External validity is demonstrated when the results of the study can be generalized to a different population (Krathwohl, 2004).

Internal Validity

In order to establish internal validity of the study, a pilot study was conducted using 20 high school content-area teachers to assure clarity of the survey instrument prior to the implementation of the actual study survey. The survey instrument was also reviewed by nine experts in the ESL field to determine the adequacy of the survey items and the coverage of the topic. Any items that were identified by the reviewers as unclear or inappropriate to the study were edited for clarity, restated more appropriately, or removed. The survey was then sent back to the expert reviewers for a final review.

External Validity

Because of the size of the sample and the fact that study participants were purposefully chosen based on the ability of the sites to meet the study criteria, the study results can be reasonably expected to generalize to the population the study sample is designed to represent, thereby ensuring the transferability of this study's results to the larger population.

Summary

This chapter detailed the quantitative research methodology used in this study. Among other things, this chapter discussed the research design, the study sites and sample, and the data collection procedures, highlighting the development and administration of the survey instrument. In addition, this chapter discussed compliance with the institutional review board, briefly described the data analyses performed, and addressed issues of reliability and validity.

Chapter 4

Data Results and Analysis

This chapter describes the data analysis procedures used in this study. This discussion includes: (1) description of the survey instrument, (2) descriptive statistics, and (3) inferential statistics.

Description of the Survey Instrument

The *Survey of Teachers' Knowledge and Value of Implementation of Content and Language Objectives* (KVICLO) was a 3-part survey that constituted 32 items. The instrument was developed through a comprehensive review of the literature on the concept and role of content and language objectives. The first section was designed to gather demographic information about participants and included items related to gender, race/ethnicity, teaching field, years of teaching, percentage of students who were ELL last year, hours of ESL related training, and attainment of ESL certification. Second, the *Knowledge* section was designed to investigate the extent to which high school content-area teachers are knowledgeable about the concept and the role of content and language objectives. Third, items in the *Value of Implementation* section were intended to ascertain the frequency and degree to which content-area high school teachers are implementing content and language objectives in the classroom.

Descriptive Statistics

This section of Chapter 4 provides descriptive statistics for each of the seven demographic factors asked in the KVICLO survey. Factors include: (1) gender, (2) race/ethnicity, (3) teaching field, (4) years of teaching, (5) percentage of students who were ELL and taught last year, (6) hours of ESL related training, (7) attainment of ESL certification.

Demographic Section of the KVICLO Survey

The demographic section of the KVICLO survey was designed to provide information on how several demographic characteristics of content-area teachers of a selected group of high schools are associated with their responses about their knowledge and value of implementation of content and language objectives. Table 3 provides frequency data about the gender of survey respondents. Seventy percent of those who responded to the survey were female, while 29.3% were male.

Table 3

Descriptive Data: Gender

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	Female	198	70.0	70.5	70.5
	Male	83	29.3	29.5	100.0
	Total	281	99.3	100.0	
Missing	X	2	.7		
Total		283	100.0		

Of the teachers who responded to the survey, almost 80% were White/Caucasian and there were none who responded as Asian/Pacific Islander (see Table 4).

Table 4

Descriptive Data: Race/Ethnicity

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	Asian/Pacific Islander	0	0	0	0
	Black/African	35	12.4	12.4	12.4
	Hispanic	16	5.7	5.7	18.1
	White/Caucasian	225	79.5	79.8	97.9
	Other	6	2.1	2.1	100
	Total	282	99.6	100	
Missing	X	1	.4		
Total		283	100		

In this sample, 60 respondents were teaching Math, and fifty-five indicated that they were teaching English. In addition, 31 respondents were teaching Social Studies, while 28 respondents were teaching Science. More than 100 respondents indicated they were teaching other subjects. Four respondents were teaching more than one subject (see Table 5).

Table 5

Descriptive Data: Teaching Field

Responses		Frequency	Percent	Valid percent	Cumulative Percent
Valid					
	Math	60	21.2	21.3	21.3
	A, B, E	1	.4	.4	21.6
	ABCDE	1	.4	.4	22.0
	ABD	1	.4	.4	22.3
	English	55	19.4	19.5	41.8
	BC	1	.4	.4	42.2
	Science	28	9.9	9.9	52.1
	Social Studies	31	11.0	11.0	63.1
	DE	1	.4	.4	63.5
	Other	103	36.4	36.5	100.0
	Total	282	99.6	100.0	
Missing	X	1	.4		
Total		283	100.0		

Table 6 illustrates the number of years of teaching experience of the respondents. Over 33% of the teachers had taught for more than 15 years, while 5.3% had taught for less than 1 year.

Table 6

Descriptive Data: Years of Teaching

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	Less than 1 year	15	5.3	5.3	5.3
	1-5 years	79	27.9	28.1	33.5
	6-10 years	53	18.7	18.9	52.3
	11-15 years	39	13.8	13.9	66.2
	More than 15 years	95	33.6	33.8	100.0
	Total	281	99.3	100.0	
Missing	X	2	.7		
Total		283	100		

Of survey respondents, the majority (87.6%) indicated that they had instructed students whose first language was not English during the previous year (see Table 7).

Table 7

Descriptive Data: Instructed ELL Students Last Year

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	No	33	11.7	11.7	11.7
	Yes	248	87.6	88.3	100
	Total	281	99.3	100	
Missing	X	2	.7		
Total		283	100.0		

Of the respondents who had ELL students in the classroom last year, 41.3% had a student population in which students whose first language was other than English constituted at least 20%. Table 8 provides frequency data about the percentage of students respondents instructed last year who were ELL.

Table 8

Descriptive Data: Percentage of Students ELL Last Year

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	1-5%	43	15.2	16.9	16.9
	6-10%	48	17.0	28.9	35.8
	11-15%	30	10.6	11.8	47.6
	16-20%	28	9.9	11.0	58.7
	More than 20%	105	37.1	41.3	100
	Total	254	89.8	100	
Missing	X	29	10.2		
Total		283	100		

Of the 280 teachers who provided valid responses to the survey item about ESL training, only 15.2% had 18 or more hours of ESL training, 17.7% indicated that they had 10-18 hours of ESL training, 30. 4% had 4-9 hours, 18.7% had 1-3 hours, while 17.0% indicated that they had received no ESL training (see Table 9).

Table 9

Descriptive Data: Hours of ESL Related Training

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	None	48	17.0	17.1	17.1
	1-3 hours	53	18.7	18.9	36.1
	4-9 hours	86	30.4	30.7	66.8
	10-18 hours	50	17.7	17.9	84.6
	18 or more	43	15.2	15.4	100.0
	Total	280	98.9	100.0	
Missing	X	3	1.1		
Total		283	100.0		

Of the 276 teachers who provided valid responses, only 15.5% of participants (n = 44) indicated that they were certified in ESL (see Table 10).

Table 10

Descriptive Data: Attainment of ESL Certification

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	No	232	82.0	84.1	84.1
	Yes	44	15.5	15.9	100.0
	Total	276	97.5	100.0	
Missing	X	7	2.5		
Total		283	100.0		

Support Section of the KVICLO Survey

The support section of the survey includes 24 items that were developed by the researcher through a comprehensive review of the literature on the concept and role of content and language objectives. Questions 9 to 13 were developed to investigate the level of knowledge about content objectives (KCO) that high school content-area teachers perceive themselves to possess. Questions 14 to 18 were developed to explore the degree to which teachers perceive they are knowledgeable about language objectives (KLO). Questions 19 to 23 were composed to gather insights about teachers' perceived value of implementing content objectives (VICO) in their practice, whereas Questions 24 to 32 relate to the level of self-perceived value teachers place on implementing language objectives (VILO) in their teaching.

The respondents were asked to choose a response that best described their knowledge and value levels with regard to content and language objectives. A five-point Likert score was applied to rate the levels of responses. For descriptive data analysis, "strongly disagree" was rated 1 point, while "strongly agree" was rated 5 points. Knowledge on content objectives, knowledge on language objectives, and value on implementing content objectives items, each of which included 5 questions, had a range of possible total scores from 5 to 25. The range of possible total score for value on implementing language objectives was 9 to 45 because this section had 9 questions. The value on implementing language objectives section included a larger number of questions than any other section due to both the researcher's specific interest in teacher perceptions about the value of implementing language objectives and also the need to ensure valid results. In order to make ANOVA results more comprehensible, the scores were converted to percent scores when hypotheses were tested.

Research Questions 1 and 2

Research Questions 1

To what extent are content-area teachers of a selected group of high schools knowledgeable about the concept and the role of content and language objectives in ELL students' achievement in a content-area classroom?

Research Question 2

To what extent do content-area teachers of a selected group of high schools value content and language objectives in their current instruction?

Table 11 provides frequency data about number of respondents per item on respondents' knowledge level of content objectives. Eight-two percent of respondents agreed or strongly agreed that they were knowledgeable about the definition of content objectives. Of the respondents, 78% self-reported that they were knowledgeable about the role content objectives play in the academic achievement of students whose first language is a language other than English. Of valid responses, 85% of the teachers indicated that they agreed or strongly agreed that content objectives influence students' learning outcomes. The majority (91%) of the respondents agreed or strongly agreed that students should know, in advance, what they should learn and be able to do after the lesson. On all five questions about knowledge on content objectives, approximately 80% of participants indicated that they agreed or strongly agreed that they were knowledgeable on the importance and role of content objectives in students' learning.

Responses to KCO Question #9, regarding the teachers' knowledge on content objectives, show that only 17 respondents were not knowledgeable about how research defines content objectives. Twenty-two percent of respondents indicated that they were not aware of the role content objectives play in the academic achievement of students whose first language is not English. Responses to KCO Question #11 reflect that only 15% of respondents did not know that content objectives enable students to stay focused on the subject throughout the lesson. Only 15% of participants were not aware that content objectives influence the level of students' learning outcomes. Responses to KCO

Question #13 indicate that only 8% of respondents were unaware that students should know, in advance, what they are expected to learn and what they should be able to do after the lesson.

Table 11

Knowledge: Content Objectives (KCO)

Question	Responses	Frequency	Percent
9. I am knowledgeable about how research defines content objectives (KCO9)	Strongly Disagree	4	1
	Disagree	15	5
	Undecided	32	11
	Agree	185	66
	Strongly Agree	44	16
	Total	280	100
10.I am knowledgeable about the role content objectives play in academic achievement of students whose first language is other than English (KCO10)	Strongly Disagree	6	2
	Disagree	19	7
	Undecided	36	13
	Agree	158	56
	Strongly Agree	61	22
	Total	280	100
11. I am aware that content objectives enable students to stay focused on the subject throughout the lesson (KCO11)	Strongly Disagree	7	2
	Disagree	10	4
	Undecided	25	9
	Agree	162	58
	Strongly Agree	77	27
	Total	281	100
12.I am aware that content objectives influence the level of students' learning outcomes (KCO12)	Strongly Disagree	5	2
	Disagree	9	3
	Undecided	28	10

	Agree	169	60
	Strongly Agree	69	25
	Total	280	100
13.I am aware that students should know, in advance, what they are expected to learn and be able to do after a lesson (KCO13)	Strongly Disagree	8	3
	Disagree	1	0
	Undecided	14	5
	Agree	133	47
	Strongly Agree	125	44
	Total	281	100

Table 12 provides frequency data about number of respondents per item on respondents' knowledge level of language objectives. The data show that 91% of respondents were aware that there are specific language needs for ELL students who are learning the content the respondents are teaching. Sixty-four percent of respondents self reported that they were knowledgeable about the stages of second language acquisition. The frequency data about the self-perceived degree of knowledge on language objectives show that, although almost 90% of the participants were aware of the specific language needs for students to learn content, fewer participants (62%) indicated that they were knowledgeable on the stages of second language acquisition.

The percentage of respondents lacking knowledge on language objectives is slightly higher than the percentage of those lacking knowledge on content objectives. Thirty percent of respondents indicated that they were not knowledgeable on how research defines language objectives. Although 91% of respondents agreed that there are specific language needs for ELL students who are learning the content being taught, 36% of respondents indicated that they were not knowledgeable on stages of second language acquisition. Almost half the participants (n = 135) indicated that they were not knowledgeable about ESL or TESOL curriculum and standards.

Table 12

Knowledge: Language Objectives (KLO)

Question	Responses	Frequency	Percent
14.I am knowledgeable about how research defines language objectives (KLO14)	Strongly Disagree	7	3
	Disagree	18	6
	Undecided	58	21
	Agree	152	54
	Strongly Agree	45	16
	Total	280	100
15.I am knowledgeable about the role language objectives play in students' language acquisition during the content lesson (KLO15)	Strongly Disagree	7	3
	Disagree	12	4
	Undecided	39	14
	Agree	165	59
	Strongly Agree	57	20
	Total	280	100
16.I am aware that there are specific language needs (e.g., key content vocabulary, main concepts) for students who are learning the content that I am teaching (KLO16)	Strongly Disagree	5	2
	Disagree	5	2
	Undecided	17	6
	Agree	154	55
	Strongly Agree	100	36
	Total	281	100
17.I am knowledgeable about the stages of second language acquisition (KLO17)	Strongly Disagree	15	5
	Disagree	30	11
	Undecided	56	20
	Agree	134	48
	Strongly Agree	46	16
	Total	281	100

18.I am knowledgeable about ESL and/or TESOL curriculum and standards (KLO18)	Strongly Disagree	18	6
	Disagree	56	20
	Undecided	61	22
	Agree	120	43
	Strongly Agree	26	9
	Total	281	100

Table 13 provides frequency data about number of respondents per item on respondents' self-perceived value of implementing content objectives. The data show that 91% of respondents indicated that they develop content objectives incorporating state or district standards. Moreover, almost 90% (n = 244) of respondents indicated that they develop and use content objectives as an assessment tool to measure students' learning outcomes. The data also indicate that 90% (n = 248) of teachers plan lessons and learning activities to focus on students' achievement of the objectives. Of teachers providing valid responses, 81% ensure all students understand the content objectives for the lesson, and 73% of the respondents agreed or strongly agreed that they post clearly defined content objectives where all students can see them throughout the lesson. On all questions related to the teachers' self-reported degree of value on implementing content objectives, more than 80% of respondents indicated that they agreed or strongly agreed.

Table 13

Value: Content Objectives (VICO)

Question	Responses	Frequency	Percent
19.I develop content objectives that incorporate state or district standards (VICO19)	Strongly Disagree	4	1
	Disagree	5	2
	Undecided	18	7
	Agree	131	48
	Strongly Agree	117	43
	Total	275	100
20.I develop content objectives and use them as an assessment tool to measure students' learning outcomes (VICO20)	Strongly Disagree	3	1
	Disagree	4	1
	Undecided	24	9
	Agree	147	53
	Strongly Agree	97	35
	Total	275	100
21.I plan the lesson and learning activities to focus on students' achievement of the objectives (VICO21)	Strongly Disagree	6	2
	Disagree	3	1
	Undecided	20	7
	Agree	149	54
	Strongly Agree	99	36
	Total	277	100
22.I ensure that all students understand the content objectives for each lesson (VICO22)	Strongly Disagree	3	1
	Disagree	13	5
	Undecided	38	14
	Agree	160	58
	Strongly Agree	63	23
	Total	277	100

23.I post the clearly defined content objectives where all students can see them throughout the lesson (VICO23)	Strongly Disagree	4	1
	Disagree	25	9
	Undecided	45	16
	Agree	119	43
	Strongly Agree	48	30
	Total	277	100

Table 14 provides frequency data about the number of respondents per item on respondents' perceived value on implementing language objectives. Out of 277 valid responses, more than 80% indicated that respondents agreed or strongly agreed that they see themselves as language teachers as well as content-area teachers. However, more than 30% of respondents (n = 85) are not developing language objectives based on the topic that is taught. In addition, while more than 90% of participants (n = 248) responded that they take state or district standards into consideration when developing content objectives, less than half (47%) of the participants indicated that they take ESL/TESOL standards into consideration when developing language objectives. Only 66% of respondents agreed or strongly agreed that they take the stages of second language acquisition into consideration when developing language objectives. Moreover, while 73% of respondents indicated that they post clearly defined content objectives where all students can see throughout lessons, less than 60% of respondents (n = 161) indicated that they do the same for language objectives.

Table 14

Value: Language Objectives (VILO)

Question	Responses	Frequency	Percent
24. I perceive myself as a language teacher as well as the content-area teacher, now that I have or will have students who are English as second language learners in my classroom (VILO24)	Strongly Disagree	7	3
	Disagree	16	6
	Undecided	58	21
	Agree	124	45
	Strongly Agree	72	26
	Total	277	100
25.I develop language objectives based on the topic that will be taught in the lesson (VILO25)	Strongly Disagree	6	2
	Disagree	30	11
	Undecided	49	18
	Agree	129	47
	Strongly Agree	62	22
	Total	276	100
26.I develop language objectives that emphasize on the main concepts and key vocabulary of the lesson (VILO26)	Strongly Disagree	6	2
	Disagree	19	7
	Undecided	38	14
	Agree	146	53
	Strongly Agree	67	24
	Total	276	100
27.I include all four language domains-listening, speaking, reading and writing- when developing language objectives (VILO27)	Strongly Disagree	6	2
	Disagree	24	9
	Undecided	45	16
	Agree	130	47
	Strongly Agree	71	26
	Total	276	100

28.I select teaching materials that support students' attainment of the language objectives (VILO28)	Strongly Disagree	7	3
	Disagree	21	8
	Undecided	46	17
	Agree	139	50
	Strongly Agree	63	23
	Total	276	100
29.I consider the stages of the second language acquisition and take my students' language proficiency levels into consideration when developing language objectives (VILO29)	Strongly Disagree	6	2
	Disagree	25	9
	Undecided	62	22
	Agree	134	48
	Strongly Agree	51	18
	Total	276	100
30.I take the ESL/TESOL standards into consideration when developing language objectives (VILO30)	Strongly Disagree	9	3
	Disagree	63	23
	Undecided	75	27
	Agree	98	36
	Strongly Agree	30	11
	Total	275	100
31.I ensure that all students understand the language objectives for the lesson (VILO31)	Strongly Disagree	6	2
	Disagree	31	11
	Undecided	56	20
	Agree	132	48
	Strongly Agree	49	18
	Total	274	100

32.I post the clearly defined language objectives where all students can see them throughout the lesson (VILO32)	Strongly Disagree	10	4
	Disagree	41	15
	Undecided	59	22
	Agree	102	38
	Strongly Agree	59	22
	Total	271	100

Table 15 presents number of valid responses, minimum, maximum, mean, and standard deviation for all items on the support section of the survey. Interestingly, this data indicates not only that the mean scores of questions related to language objectives were generally lower than those related to content objectives, but the standard deviation also was wider in responses related to language objectives than in responses related to content objectives. While none of the standard deviation scores of responses related to content objectives were higher than .976, four standard deviation scores of responses related to language objectives (corresponding to KLO17, KLO18, VILO30 and VILO32) were 1.038 or higher.

Table 15

Descriptive Statistics for Each Question

Question	N	Minimum	Maximum	Mean	Standard Deviation
KCO9	280	1	5	3.89	.778
KCO10	280	1	5	3.89	.895
KCO11	281	1	5	4.04	.855
KCO12	280	1	5	4.03	.798
KCO13	281	1	5	4.30	.822
KLO14	280	1	5	3.75	.889
KLO15	280	1	5	3.90	.856
KLO16	281	1	5	4.21	.779
KLO17	281	1	5	3.59	1.052
KLO18	281	1	5	3.28	1.084
VICO19	275	1	5	4.28	.786
VICO20	275	1	5	4.20	.476
VICO21	277	1	5	4.20	.794
VICO22	277	1	5	3.96	.807
VICO23	277	1	5	3.92	.976
VILO24	277	1	5	3.86	.955
VILO25	276	1	5	3.76	.990
VILO26	276	1	5	3.90	.919
VILO27	276	1	5	3.86	.973
VILO28	276	1	5	3.83	.950
VILO29	276	1	5	3.71	.943
VILO30	275	1	5	3.28	1.038
VILO31	274	1	5	3.68	.967
VILO32	271	1	5	3.59	1.098
Valid N	262				

Table 16 provides the mean and standard deviation of four categories of the support section. This data indicates that the means of the questions related to language objectives are lower than those of questions related to content objectives. Respondents perceived that they had more knowledge on content objectives (4.030) than on language objectives (3.746). Respondents also perceived that they placed more value on implementing content objectives (4.112) than on implementing language objectives (3.719). This data also shows that responses related to knowledge and value on implementing language objectives contained higher standard deviations than those responses related to knowledge and value on implementing content objectives (see Table 16).

Table 16

Mean and Standard Deviation for Question Categories

Category	Mean	Standard Deviation
KCO (9-13)	4.030	.830
KLO (1418)	3.746	.932
VICO (19-23)	4.112	.822
VILO (24-32)	3.719	.981

Due to the difference in number of items in each category (KCO = 5, KLO = 5, VICO = 5, and VILO = 9), and in order to make the data more comprehensive, the scores were converted to percentages when the data was analyzed for associations between dependent and independent variables. The highest score was rated 100% when a respondent indicated that he or she strongly agreed on each item. Table 17 illustrates mean percentage scores of responses in each category: knowledge on content objectives (KCO), knowledge on language objectives (KLO), value on implementing content

objectives (VICO), value on implementing language objectives (VILO), knowledge on both content and language objectives (Knowledge), value on implementing both content and language objectives (Value), knowledge and value on implementing content objectives (CO), and knowledge and value on implementing language objectives (LO).

The average percent of knowledge on content objectives that respondents self reported was 81%, while knowledge on language objectives was 75% (see Table 17). The average percent of value on implementing content objectives was 82%, whereas the average percent of value respondents self reported on implementing language objectives was 74%. The data shows both that respondents have more knowledge on content objectives than on language objectives and that they place more value on implementing content objectives than on implementing language objectives. Mean percent scores for knowledge on both content and language objectives and mean percent scores for value on implementing both content and language objectives were not very different (M of K = 78, M of V = 77), and their standard deviation scores were identical (sd = 14). The data also indicates that the overall mean percentage of responses related to content objectives (81%) was higher than the overall mean percentage of responses related to language objectives (75%).

Table 17

Percent Scores Based on Question Categories

Question Category	No. of Surveys with Valid Scores	Average % Scores	Median % Scores	Min. % Score	Max. % Score	Standard Deviation
KCO percent of 25	279	81	80	20	100	14
KLO percent of 25	279	75	80	20	100	15
VICO percent of 25	275	82	80	20	100	14
VILO percent of 45	269	74	76	20	100	16
Knowledge percent	277	78	80	20	100	14
Value percent	267	77	80	20	100	14
CO percent	272	81	80	20	100	12
LO percent	266	75	77	20	100	15
Grand Total percent score of 120	262	78	79	20	100	13

Inferential Statistics

This section details the inferential statistics used in this study, as necessary to answer Research Question 3.

Research Question 3

How are several demographic characteristics of content-area teachers of a selected group of high schools associated with their responses about their knowledge and value of content and language objectives?

In order to answer this question, a simple regression formula was created on seven different formulas. In each simple regression formula, the dependent variable was the

grand total percent score. The independent variables used were as follows: gender, race/ethnicity, teaching field, years of teaching, percentage of students ELL last year, hours of ESL related training, and attainment of ESL certification.

To ensure the homogeneity of sample groups, Levene's test was run. The result of Levene's test assured that the error variance of the dependent variable was equal across groups. To determine whether there were significant differences, a series of ANOVA tests were conducted with gender, race/ethnicity, years of teaching, percentage of students ELL last year, hours of ESL related training, and attainment of ESL certification.

Gender

Table 18 illustrates that 186 respondents were female and 74 were male.

Table 18

Between-Subjects Factors: Gender

Characteristic	Factor	Value Label	N
Gender	A	Female	186
	B	Male	74

The average percent scores and standard deviations for grand total percent score of teachers, by gender, are contained in Table 19. Although female participants indicated that they were slightly more knowledgeable on both content and language objectives (KC = 81, KL = 76) than did male participants (KC = 79, KL = 72), the standard deviations were much higher for female participants (sd = 15, 16) than for male participants (sd = 11, 13). Both genders had similar percent scores for value on implementing content and language objectives (see Table 19).

Table 19

Responses Analyzed by Gender

Question Category	No. of Surveys with Valid Score	Average % Score	Median % Score	Min. % Score	Max. % Score	Standard Deviation
			Female			
KCO percent of 25	195	81	80	20	100	15
KLO percent of 25	195	76	80	20	100	16
VICO percent of 25	193	82	80	20	100	15
VILO percent of 45	190	75	78	20	100	16
Knowledge percent	194	79	80	20	100	15
Value percent	189	78	80	20	100	15
CO percent	191	82	80	20	100	13
LO percent	188	76	79	20	100	15
Grand Total percent score of 120	186	78	79	20	100	14
			Male			
KCO percent of 25	82	79	80	36	100	11
KLO percent of 25	82	72	76	40	100	13
VICO percent of 25	80	82	80	60	100	10
VILO percent of 45	77	72	73	33	100	14
Knowledge percent	81	76	78	40	100	11
Value percent	76	76	79	49	100	11
CO percent	79	81	80	56	100	9
LO percent	76	72	73	37	100	12
Grand Total percent score of 120	74	76	76	45	100	10

As Table 20 depicts, the grand total percent score for females averaged 78.19, while the male average was 75.88.

Table 20

Descriptive Statistics on Grand Total Percent Score (of 120): Gender

Gender	Mean	Standard Deviation	N
Female	78.19	13.876	186
Male	75.88	10.007	74
Total	77.53	12.917	160

The researcher had assumed there wouldn't be statistically significant difference between genders in grand total percent scores of the responses to the KVICLO survey. The results of the analysis of variance for grand total percent score by gender are presented in Table 21. The data suggest that the F score is too low (F = 1.700) and the significance level is higher than .05 (sig = .193). *Therefore, the null hypothesis was retained. The findings indicate that there are no statistically significant differences at the .05 level regarding the grand total percent score as a result of gender.* The adjusted R-squared value on this data also indicates that only 3% of variability in participants' responses can be associated with gender.

Table 21

Tests of Between-Subjects Effects: Gender

Source	Type III Sum of Squares b	df	Mean Square	F	Sig.	Observed Power a
Corrected Model						
@1_Gender	282.873	1	282.873	1.700	.193	.255

Error	42930.749	258	166.398
Corrected Total	43213.622	259	

a. Computed using alpha = .05
b. R-squared = .007 (adjusted R-squared = .003)

Race/Ethnicity

Table 22 illustrates the number of respondents who identified with each race/ethnicity.

Table 22

Between-Subjects Factors: Race/Ethnicity

Characteristic	Factor	Value Label	N
Race	B	Black/African	32
	C	Hispanic	14
	D	White/Caucasian	210
	E	Other	5

The data shows that the respondents of Hispanic background had 82% for the average grand total percent score, and respondents with other racial backgrounds had 82% as well. Meanwhile, White/Caucasian respondents had 77% for the average grand total percent score, and Black/African respondents had an average grand total percent score of 76% (see Table 23).

Table 23

Responses Analyzed by Race/Ethnicity

Question Category	No. of Surveys with Valid Score	Average % Score	Median % Score	Min. % Score	Max. % Score	Standard Deviation
			Black/African			
KCO percent of 25	35	82	80	36	100	13

KLO percent of 25	35	74	76	40	100	15
VICO percent of 25	34	80	80	52	100	13
VILO percent of 45	32	72	78	33	98	15
Knowledge percent	35	78	80	40	100	13
Value percent	32	74	79	44	97	13
CO percent	34	82	80	50	100	11
LO percent	32	73	78	37	96	14
Grand Total percent score of 120	32	76	79	43	95	12
		Hispanic				
KCO percent of 25	16	84	82	68	100	9
KLO percent of 25	16	84	84	44	100	15
VICO percent of 25	15	84	84	68	100	9
VILO percent of 45	15	80	80	53	100	14
Knowledge percent	16	84	83	56	100	11
Value percent	14	81	82	59	100	12
CO percent	15	84	82	68	100	9
LO percent	15	81	81	50	100	14
Grand Total percent score of 120	14	82	83	58	100	11
		White/Caucasian				
KCO percent of 25	221	80	80	20	100	14
KLO percent of 25	222	74	76	20	100	15
VICO percent of 25	219	83	80	20	100	14
VILO percent of 45	215	74	76	20	100	16
Knowledge percent	220	77	80	20	100	14
Value percent	214	77	79	20	100	14
CO percent	216	81	80	20	100	13

LO percent	213	74	76	20	100	15
Grand Total percent score of 120	210	77	78	20	100	13
			Other			
KCO percent of 25	6	78	78	56	96	15
KLO percent of 25	5	80	80	68	100	12
VICO percent of 25	6	85	84	76	100	8
VILO percent of 45	6	81	82	56	96	15
Knowledge percent	5	77	74	62	96	12
Value percent	6	83	81	66	97	11
CO percent	6	81	78	70	96	10
LO percent	5	84	80	74	97	9
Grand Total percent score of 120	5	82	80	73	97	9

The means and standard deviations for grand total percent scores by race are summarized in Table 24.

Table 24

Descriptive Statistics on Grand Total Percent Score (of 120): Race/Ethnicity

Race	Mean	Standard Deviation	N
Black/African	76.17	11.636	32
Hispanic	83.32	11.432	14
White/Caucasian	77.32	13.214	210
Other	82.33	9.041	5
Total	77.54	12.893	261

The researcher had assumed there would not be statistically significant differences among races/ethnicities in grand total percent scores of the responses to the KVICLO survey. *With grand total percent scores as dependent variables and races/ethnicities as independent variables, the findings indicate that there are no statistically significant differences at the .05 level regarding grand percent total score as a result of race/ethnicity. Therefore, the null hypothesis was retained.* The results of the analysis of variance for grand total percent score by race/ethnicity are summarized in Table 25.

Table 25

Test of Between-Subjects Effects: Race/Ethnicity

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power a
Corrected Model	b					
@2_Race/Ethnicity	505.245	3	168.415	1.013	.387	.274
Error	42714.444	257	166.204			
Corrected Total	43219.689	260				

a. Computed using alpha = .05
b. R-squared = .012 (adjusted R-squared = .000)

Teaching Field

Table 26 depicts the number of respondents who identified with each teaching field.

Table 26

Between-Subjects Factors: Teaching Field

Characteristic	Factor	Value Label	N
Teaching Field	A	Math	55

B	English	53
C	Science	25
D	Social Studies	29
E	All Others	100

Table 27 provides data about number of surveys with valid scores, average percent, median, minimum, maximum, and standard deviation of percentage of the responses, categorized by the teaching field of the respondents. The data shows that the respondents who teach Math had the highest average grand total percent score (81%), while teachers of Social Studies had the lowest average grand total percent score (74%).

Table 27

Responses Analyzed by Teaching Field

Question Category	No. of Surveys with Valid Score	Average % Score	Median % Score	Min. % Score	Max. % Score	Standard Deviation
			Math			
KCO percent of 25	59	84	80	56	100	11
KLO percent of 25	60	79	80	40	100	13
VICO percent of 25	58	85	84	40	100	12
VILO percent of 45	56	77	80	40	100	14
Knowledge percent	59	81	80	52	100	11
Value percent	56	80	80	49	100	11
CO percent	57	85	84	52	100	10
LO percent	56	78	80	49	100	12
Grand Total percent score of 120	55	81	81	50	100	10

			English			
KCO percent of 25	54	83	80	24	100	14
KLO percent of 25	54	77	78	40	100	14
VICO percent of 25	55	84	84	28	100	15
VILO percent of 45	55	77	80	33	100	16
Knowledge percent	53	80	80	32	100	13
Value percent	55	80	80	33	100	15
CO percent	54	83	83	26	100	14
LO percent	54	78	79	37	100	14
Grand Total percent score of 120	53	80	80	33	100	13
			Science			
KCO percent of 25	27	79	80	48	96	11
KLO percent of 25	27	68	72	32	88	14
VICO percent of 25	27	84	84	56	100	11
VILO percent of 45	26	70	71	38	87	12
Knowledge percent	27	73	76	40	92	12
Value percent	26	75	74	57	91	9
CO percent	26	82	80	62	94	9
LO percent	25	69	74	36	84	12
Grand Total percent score of 120	25	75	75	50	87	9

			Social Studies			
KCO percent of 25	31	77	80	36	100	14
KLO percent of 25	31	71	76	40	100	13
VICO percent of 25	31	82	80	52	100	11
VILO percent of 45	29	70	71	33	100	15
Knowledge percent	31	74	78	40	100	13
Value percent	29	74	76	49	97	12
CO percent	31	79	80	56	100	10
LO percent	29	70	73	37	93	13
Grand Total percent score of 120	29	74	76	45	90	11
			Other			
KCO percent of 25	102	79	80	20	100	15
KLO percent of 25	101	75	80	20	100	17
VICO percent of 25	98	80	80	20	100	15
VILO percent of 45	97	74	78	20	100	18
Knowledge percent	101	77	78	20	100	15
Value percent	95	76	79	20	100	16
CO percent	98	79	80	20	100	14
LO percent	96	74	76	20	100	17
Grand Total percent score of 120	94	77	79	20	100	15

As Table 28 illustrates, the grand total percent score of Math teachers was 80.52, while the grand total percent score for Science teachers was 74.53.

Table 28

Descriptive Statistics on Grand Total Percent Score (of 120): Teaching Field

Teaching Field	Mean	Standard Deviation	N
Math	80.52	10.451	55
English	79.89	13.368	53
Science	74.53	9.425	25
Social Studies	73.71	10.685	29
All Others	76.44	14.640	100
Total	77.51	12.879	262

The researcher had assumed that teaching fields of respondents would not lead to statistically significant differences in grand total percent scores of the responses to the KVICLO survey. The results of the analysis of variance for grand total percent score by teaching field are presented in Table 29. *The results indicate that there were no significant differences regarding the knowledge and value on content and language objectives as a result of a teacher's teaching field. Therefore, the null hypothesis was retained.* Although the significance level is very close to being statistically significant, the F value is too low to reject the null hypothesis.

Table 29

Test of Between-Subjects Effects: Teaching Field

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power a
Corrected Model	b					
Content Main Only	1551.990	4	387.998	2.389	.051	.684
Error	41737.569	257	162.403			
Corrected Total	43289.559	261				

a. Computed using alpha = .05
b. R-squared = .036 (adjusted R-squared = .021)

Years of Teaching

Table 30 depicts the number of respondents who identified with each category of years of teaching.

Table 30

Between-Subjects Factors: Years of Teaching

Question	Factor	Value Label	N
How many years have you been teaching?	A	Less than 1 year	13
	B	1-5 years	73
	C	6-10 years	50
	D	11-15 years	36
	E	More than 15 years	88

Table 31 provides data about numbers of surveys with valid scores, average percent, median, minimum, maximum, and standard deviation of percentage of the

responses, categorized by years of respondents' teaching experience. The data shows that teachers who had 11 or more years of teaching experience had a grand total percent score of 80, while teachers with less than a year of teaching experience had a grand total percent score of only 73.

Table 31

Responses Analyzed by Years of Teaching

Question Category	No. of Surveys with Valid Score	Average % Score	Median % Score	Min. % Score	Max. % Score	Standard Deviation
			Less Than 1 Year			
KCO percent of 25	14	76	76	64	88	7
KLO percent of 25	15	70	72	40	92	14
VICO percent of 25	14	78	80	40	92	13
VILO percent of 45	15	70	71	53	89	10
Knowledge percent	14	73	72	52	90	10
Value percent	14	74	74	49	89	10
CO percent	13	76	78	52	88	9
LO percent	15	70	69	49	90	10
Grand Total percent score of 120	13	73	71	50	89	10

			1-5 Years			
KCO percent of 25	78	80	80	24	100	14
KLO percent of 25	77	75	80	32	100	14
VICO percent of 25	79	82	84	20	100	15
VILO percent of 45	75	71	76	33	100	16
Knowledge percent	77	78	80	32	100	13
Value percent	75	75	79	33	100	13
CO percent	78	81	82	26	100	13
LO percent	73	73	76	37	100	14
Grand Total percent score of 120	73	76	78	33	100	13
			6-10 Years			
KCO percent of 25	53	80	80	36	100	14
KLO percent of 25	53	74	76	40	100	16
VICO percent of 25	52	81	80	32	100	14
VILO percent of 45	50	70	74	29	100	17
Knowledge percent	53	77	78	40	100	14
Value percent	50	74	76	44	100	14
CO percent	52	81	80	40	100	12
LO percent	50	72	75	33	100	16
Grand Total percent score of 120	50	75	77	45	100	13

		11-15 Years				
KCO percent of 25	38	81	80	20	100	17
KLO percent of 25	38	76	80	20	100	18
VICO percent of 25	38	83	80	20	100	15
VILO percent of 45	39	78	80	20	100	18
Knowledge percent	37	78	80	20	100	17
Value percent	38	80	80	20	100	16
CO percent	37	82	80	20	100	15
LO percent	38	78	80	20	100	17
Grand Total percent score of 120	36	80	80	20	100	15
		More Than 15 Years				
KCO percent of 25	94	82	80	20	100	12
KLO percent of 25	94	76	76	20	100	15
VICO percent of 25	90	84	80	36	100	11
VILO percent of 45	88	78	78	31	100	14
Knowledge percent	94	79	80	20	100	13
Value percent	88	80	80	33	100	13
CO percent	90	83	80	28	100	11
LO percent	88	78	79	27	100	14
Grand Total percent score of 120	88	80	80	28	100	12

Table 32 presents the grand total percent score of each category of years of teaching. The data shows that the average grand total percent score of teachers with less than 1 year of teaching experience was 72.82, while the respondents with more than 15 years of teaching experience had an average grand total percent score of 79.97.

Table 32

Descriptive Statistics on Grand Total Percent Score (of 120): Years of Teaching

Years of Teaching	Mean	Standard Deviation	N
Less than 1 year	72.82	9.710	13
1-5 years	75.92	12.598	73
6-10 years	75.43	13.061	50
11-15 years	79.58	15.467	36
More than 15 years	79.97	12.011	88
Total	77.55	12.917	260

The researcher had assumed that years of teaching would not yield statistically significant differences in grand total percent scores of the responses to the KVICLO survey. A summary of the analysis of variance for grand total percent score by years of teaching is presented in Table 33. *With grand total percent score as the dependent variable and years of teaching experience as the independent variable, the findings indicate that there are no statistically significant differences at the .05 level. Therefore, the null hypothesis was retained.*

Table 33

Test of Between-Subjects Effects: Years of Teaching

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power a
Corrected Model	b					
@4_Years Teaching	1372.526	4	343.132	2.091	.082	.618
Total	1606905.6	260				
Corrected Total	43213.205	259				

a. Computed using alpha = .05
b. R-squared = .148 (adjusted R-squared = .135)

Percentage of Students ELL Last Year

Table 34 illustrates the number of responses for each category of percentage of students who were ELL last year.

Table 34

Between-Subjects Factors: Percentage of Students ELL Last Year

Question	Factor	Value Label	N
Approximately what percentage of your students was	A	1-5%	38
ELL last year?	B	6-10%	44
	C	11-15%	28
	D	16-20%	26
	E	More than 20%	98

Table 35 provides data about number of surveys with valid scores, average percent, median, minimum, maximum, and standard deviation of percentage of the

responses, categorized by percentage of respondents' students who were ELL last year. As the data indicates, respondents who taught classes in which 1-5% of students were ELL students had the lowest average grand total percent score of 72. By contrast, teachers who had classes in which more than 20% of students were ELL students had an average grand total percent score of 81.

Table 35

Responses Analyzed by Percentage of Students ELL Last Year

Question Category	No. of Surveys with Valid Score	Average % Score	Median % Score	Min. % Score	Max. % Score	Standard Deviation
			1-5%			
KCO percent of 25	41	77	80	20	100	16
KLO percent of 25	41	68	68	20	100	17
VICO percent of 25	40	78	80	36	100	13
VILO percent of 45	39	68	71	31	96	15
Knowledge percent	41	73	76	20	100	15
Value percent	39	71	71	33	97	13
CO percent	39	78	80	28	100	13
LO percent	38	68	67	27	97	15
Grand Total percent score of 120	38	72	72	28	95	13

			6-10%			
KCO percent of 25	48	81	80	48	100	12
KLO percent of 25	47	78	80	40	100	13
VICO percent of 25	46	84	82	60	100	11
VILO percent of 45	45	73	76	29	100	16
Knowledge percent	47	80	80	44	100	12
Value percent	45	77	80	51	100	13
CO percent	46	83	80	60	100	10
LO percent	44	75	77	33	100	14
Grand Total percent score of 120	44	79	80	48	100	11
			11-15%			
KCO percent of 25	30	79	80	36	100	19
KLO percent of 25	30	71	74	32	100	20
VICO percent of 25	29	83	84	20	100	16
VILO percent of 45	28	74	76	33	100	17
Knowledge percent	30	75	80	34	100	18
Value percent	28	77	79	41	100	15
CO percent	29	81	80	28	100	16
LO percent	28	73	76	36	100	17
Grand Total percent score of 120	28	76	78	38	100	16

			16-20%			
KCO percent of 25	28	81	82	24	100	17
KLO percent of 25	28	76	80	40	100	13
VICO percent of 25	27	82	84	28	100	18
VILO percent of 45	27	79	80	36	100	16
Knowledge percent	28	78	80	32	100	15
Value percent	26	81	81	33	100	15
CO percent	27	81	86	26	100	17
LO percent	27	78	77	37	100	14
Grand Total percent score of 120	26	80	81	33	100	15
			More Than 20%			
KCO percent of 25	104	83	80	52	100	10
KLO percent of 25	104	80	80	40	100	12
VICO percent of 25	104	85	84	56	100	11
VILO percent of 45	101	78	80	33	100	15
Knowledge percent	103	81	80	54	100	10
Value percent	100	81	80	46	100	12
CO percent	103	84	84	62	100	9
LO percent	100	79	80	43	100	13
Grand Total percent score of 120	98	81	80	55	100	10

The means and standard deviations for grand total percent score by percentage of respondents' students who were ELL last year are depicted in Table 36. Table 36 indicates that as the percentage of students who were ELL increased, the mean of the

grand total percent score also increased.

Table 36

Descriptive Statistics on Grand Total Percent Score (of 120): Percentage of Students ELL Last Year

Percentage of Students ELL Last Year	Mean	Standard Deviation	N
1-5%	71.82	12.942	38
6-10%	78.50	11.312	44
11-15%	76.19	15.617	28
16-20%	79.62	14.816	26
More than 20%	81.11	10.310	98
Total	78.35	12.537	234

The researcher had assumed that the grand total percent score of the responses to the KVICLO survey would not be significantly affected by the percentage of respondents' students who were ELL last year. A summary of the analysis of variance for grand total percent score by percentage of students who were ELL last year is presented in Table 37. *The results indicate that there was a statistically significant difference regarding the grand total percent score as a result of the percentage of respondents' students who were ELL last year. Therefore, the null hypothesis was rejected, and it is the finding that there was a significant difference in grand percent total score as a result of the percentage of respondents' students who were ELL last year.*

Table 37

Test of Between-Subjects Effects: Percentage of Students ELL Last Year

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power a
Corrected Model	b					
@6_Percentage ELL	2537.574	4	634.394	4.262	.002	.924
Total	1473254.167	234				
Corrected Total	36620.726	233				

a. Computed using alpha = .05
b. R-squared = .148 (adjusted R-squared = .135)

In order to investigate where the significant difference existed, multiple comparisons analysis was run. The results of the analysis are summarized in Table 38. These results indicate that the difference between the grand total percent score of *1-5% ELL students* and *more than 20% ELL students* was statistically significant (sig = .001).

Table 38

Bonferroni's Multiple Comparisons on Grand Total Percent Score (of 120): Percentage of Students ELL Last Year

(I) Percentage of students ELL	(J) Percentage of students ELL	Mean Difference (I-J)	Significance
1-5%	6-10%	-6.68	.141
	11-15%	-4.37	1.000
	16-20%	-7.80	.127
	More than 20%	-9.29*	.001
6-10%	1-5%	6.68	.141
	11-15%	2.31	1.000

	16-20%	-1.11	1.000
	More than 20%	-2.60	1.000
11-15%	1-5%	4.37	1.000
	6-10%	-2.31	1.000
	16-20%	-3.42	1.000
	More than 20%	-4.91	.614
16-20%	1-5%	7.80	.127
	6-10%	1.11	1.000
	11-15%	3.42	1.000
	More than 20%	-1.49	1.000
More than 20%	1-5%	9.29*	.001
	6-10%	2.60	1.000
	11-15%	4.91	.614
	16-20%	1.49	1.000

Based on observed means.
* The mean difference is significant at the .05 level.

Hours of ESL Related Training

Table 39 presents the number of responses in each category of hours of ESL related training.

Table 39

Between-Subjects Factors: Hours of ESL Related Training

Question	Factor	Value Label	N
How many hours of ESL training, including college, etc.,	A	None	45
have you received?	B	1-3 hours	49

C	4-9 hours	80
D	10-18 hours	47
E	18 or more	38

Table 40 provides data about number of surveys with valid scores, average percent, median, minimum, maximum, and standard deviation of percentage of the responses, categorized by the number of hours of ESL related training respondents had received. According to the data, respondents with no ESL training had the lowest average grand total percent score of 69%, whereas respondents with 18 or more hours of ESL training had an average grand total percent score of 83%.

Table 40

Responses Analyzed by Hours of ESL Related Training

Question Category	No. of Surveys with Valid Score	Average % Score	Median % Score	Min. % Score	Max. % Score	Standard Deviation
			None			
KCO percent of 25	48	72	76	20	100	17
KLO percent of 25	47	64	64	20	100	17
VICO percent of 25	46	77	80	20	100	16
VILO percent of 45	47	65	69	20	100	18
Knowledge percent	47	68	70	20	100	16
Value percent	46	70	70	20	100	16
CO percent	46	74	75	20	100	14
LO percent	46	65	66	20	100	17
Grand Total percent score of 120	45	69	69	20	100	15

			1-3 Hours			
KCO percent of 25	53	78	80	36	100	13
KLO percent of 25	52	69	68	32	100	14
VICO percent of 25	52	81	80	20	100	14
VILO percent of 45	51	70	71	40	100	14
Knowledge percent	52	74	76	34	100	12
Value percent	50	73	75	41	100	12
CO percent	52	79	80	28	100	12
LO percent	50	70	70	46	100	13
Grand Total percent score of 120	49	73	73	38	100	11
			4-9 Hours			
KCO percent of 25	85	82	80	48	100	9
KLO percent of 25	85	77	80	40	100	12
VICO percent of 25	82	83	80	32	100	11
VILO percent of 45	81	77	78	40	100	13
Knowledge percent	85	80	80	54	100	10
Value percent	81	79	80	44	100	11
CO percent	81	83	82	40	100	9
LO percent	80	77	79	43	100	11
Grand Total percent score of 120	80	80	80	48	100	10

			10-18 Hours			
KCO percent of 25	49	85	84	20	100	13
KLO percent of 25	50	81	80	20	100	13
VICO percent of 25	50	86	88	36	100	13
VILO percent of 45	48	79	80	31	100	16
Knowledge percent	49	83	80	20	100	13
Value percent	48	82	81	33	100	13
CO percent	49	86	86	28	100	12
LO percent	48	80	81	27	100	14
Grand Total percent score of 120	47	82	83	28	100	13
			18 or More Hours			
KCO percent of 25	41	85	84	24	100	13
KLO percent of 25	42	83	80	40	100	13
VICO percent of 25	42	84	84	28	100	14
VILO percent of 45	39	81	80	33	100	16
Knowledge percent	41	84	82	32	100	12
Value percent	39	82	81	33	100	15
CO percent	41	85	86	26	100	13
LO percent	39	81	80	37	100	14
Grand Total percent score of 120	38	83	83	33	99	13

Table 41 indicates that respondents with no ESL training had an average grand total percent score of 69.15, teachers with 1-3 hours of ESL training averaged a score of 73.44, respondents with 4-9 hours averaged 79.69, respondents with 10-18 hours averaged 82.25, and respondents with more than 18 hours averaged 82.68. The data

indicates the consistent increase in grand total percent score as the number of hours of ESL training received by respondents increased.

Table 41

Descriptive Statistics on Grand Total Percent Score (of 120): Hours of ESL Related Training

Hours of ESL Related Training	Mean	Standard Deviation	N
None	69.15	14.954	45
1-3 Hours	73.44	11.255	49
4-9 Hours	79.69	9.561	80
10-18 Hours	82.25	12.513	47
18 or More Hours	82.68	13.176	38
Total	77.58	12.936	259

The researcher had assumed that there would not be a statistically significant difference in grand total percent score of the responses to the KVICLO survey as a result of hours of ESL training respondents had received. A summary of the analysis of variance for grand total percent score by hours of ESL related training is presented in Table 42. *The results indicate that there was a significant difference regarding the grand total percent score as a result of the hours of ESL related training respondents had received. With an F score of 11 and a significance of .000, the difference is not only statistically significant but also practically inferential. Therefore, the null hypothesis was rejected, and it is the finding that hours of ESL related training teachers have received can be linked to teachers' level of knowledge and value on implementing content and language objectives.*

Table 42

Test of Between-Subjects Effects: Hours of ESL Related Training

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power a
Corrected Model	b					
@7_ESL training	6408.776	4	1602.194	11.068	.000	1.000
Error	36767.457	254	144.754			
Corrected Total	43176.233	258				

a. Computed using alpha = .05
b. R-squared = .148 (adjusted R-squared = .135)

The result of multiple comparisons shows that the grand total percent scores of teachers with no hours and 1-3 hours of ESL training were significantly different from those with 4-9 hours, 10-18 hours, and 18 or more hours of ESL training, even though there was no significant difference found between teachers with no ESL training and those with 1-3 hours of ESL training. In addition, there was no significant difference in grand total percent scores among teachers with 4-9 hours, 10-18 hours, and 18 or more hours of ESL training (see Table 43). In summary, the results indicate that the level of knowledge and value on implementing content and language objectives perceived by teachers with less than 4 hours of ESL training was statistically and significantly different than the level of knowledge and value perceived by teachers with more than 4 hours of ESL training.

Table 43

Bonferroni's Multiple Comparisons on Grand Total Percent Score (of 120): Hours of ESL Related Training

(I) How many hours of ESL training, including college, etc., have you received?	(J) How many hours of ESL training, including college, etc., have you received?	Mean Difference (I-J)	Standard Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
None	1-3 Hours	-4.29	2.484	.856	-11.32	2.75
	4-9 Hours	-10.54*	2.242	.000	-16.89	-4.19
	10-18 Hours	-13.10*	2.509	.000	-20.21	-6.00
	18 or More Hours	-13.53*	2.651	.000	-21.03	-6.02
1-3 Hours	None	4.29	2.484	.856	-2.75	11.32
	4-9 Hours	-6.25*	2.183	.045	-12.43	-.07
	10-18 Hours	-8.82*	2.456	.004	-15.77	-1.86
	18 or More Hours	-9.24*	2.601	.005	-16.60	-1.88
4-9 Hours	None	10.54*	2.242	.000	4.19	16.89
	1-3 Hours	6.25*	2.183	.045	.07	12.43
	10-18 Hours	-2.56	2.211	1.000	-8.83	3.70
	18 or More Hours	-2.99	2.370	1.000	-9.70	3.72

10-18 Hours	None	13.10*	2.509	.000	6.00	20.21
	1-3 Hours	8.82*	2.456	.004	1.86	15.77
	4-9 Hours	2.56	2.211	1.000	-3.70	8.83
	18 or More Hours	-.42	2.625	1.000	-7.86	7.01
18 or More Hours	None	13.53*	2.651	.000	6.02	21.03
	1-3 Hours	9.24*	2.601	.005	1.88	16.60
	4-9 Hours	2.99	2.370	1.000	-3.72	9.70
	10-18 Hours	.42	2.625	1.000	-7.01	7.86

Note. Based on observed means.
* The mean difference is significant at the .05 level.

Attainment of ESL Certification

Table 44 illustrates the numbers of respondents with ESL certification and without ESL certification.

Table 44

Between-Subject Factors: Attainment of ESL Certification

Question	Factor	Value Label	N
Are you ESL certified?	A	No	213
	B	Yes	42

Table 45 provides data about number of surveys with valid scores, average percent, median, minimum, maximum, and standard deviation of percentage of the responses, categorized by the respondents' attainment of ESL certification.

Table 45

Responses Analyzed by Attainment of ESL Certification

Question Category	No. of Surveys with Valid Score	Average % Score	Median % Score	Min. % Score	Max. % Score	Standard Deviation
		No				
KCO percent of 25	229	80	80	20	100	13
KLO percent of 25	228	74	76	20	100	15
VICO percent of 25	224	82	80	20	100	14
VILO percent of 45	219	73	76	20	100	16
Knowledge percent	227	77	80	20	100	13
Value percent	217	76	79	20	100	13
CO percent	222	81	80	20	100	12
LO percent	216	73	76	20	100	14
Grand Total percent score of 120	213	77	78	20	100	13

			Yes			
KCO percent of 25	43	82	80	24	100	14
KLO percent of 25	44	82	80	40	100	13
VICO percent of 25	44	84	82	28	100	13
VILO percent of 45	43	80	82	33	100	16
Knowledge percent	43	82	80	32	100	13
Value percent	43	81	83	33	100	14
CO percent	43	83	82	26	100	13
LO percent	43	81	81	37	100	14
Grand Total percent score of 120	42	82	83	33	100	13

Table 46 illustrates that respondents with ESL certification had a higher average grand total percent score (81.69%) than respondents who had not attained ESL certification (76.53%).

Table 46

Descriptive Statistics on Grand Total Percent Score (of 120): Attainment of ESL Certification

ESL Certified	Mean	Standard Deviation	N
No	76.53	12.579	213
Yes	81.69	13.487	42
Total	77.38	12.849	255

One-way ANOVA was used to compare the means of grand total percent scores for ESL certified and not certified. The researcher had assumed that there would be a statistically significant difference in grand total percent score of the responses to the KVICLO survey

as a result of attainment of ESL certification. *The findings show that there is a significant difference in grand total percent scores (sig = .017). However, the adjusted R-squared value indicates that only approximately 2% of the variance in this dependent variable can be associated with the independent variable (see Table 47). The researcher was unable to determine the association between the status of ESL certification and the level of knowledge and value on content and language objectives because of the large difference between the numbers of non-ESL certified respondents (n = 213) and ESL certified respondents (n = 42). Therefore, the null hypothesis* was exempted from conclusive analysis.

Table 47

Test of Between-Subjects Effects: Attainment of ESL Certification

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power a
Corrected Model	b					
@8_ESL certified	934.337	1	934.337	5.765	.017	.667
Error	41002.008	253	162.063			
Total	1568625.345	255				
Corrected Total	41936.345	254				

a. Computed using alpha = .05
b. R-squared = .022 (adjusted R-squared = .018)

Summary

This study sought to answer these questions.

1. To what extent are content-area teachers of a selected group of high schools knowledgeable about the concept and the role of content and language objectives in ELL students' achievement in a content-area classroom?
2. To what extent do content-area teachers of a selected group of high schools value content and language objectives in their current instruction?
3. How are several demographic characteristics of content-area teachers of a selected group of high schools associated with their responses about their knowledge and value of content and language objectives?

The results of the data analysis indicate the following:

1. Teachers perceive they are not lacking with regard to their knowledge about the concept and role of content and language objectives in ELL students' achievement in a content-area classroom (KCO = 4.030; KLO = 3.746).
2. Teachers perceive they are not lacking with regard to the value they place on content and language objectives in their current instruction (VICO = 4.112; VILO = 3.719).
3. Gender was not linked to the teachers' self-rated degree and value on implementing content and language objectives.
4. Race/ethnicity was not linked to the teachers' self-rated degree and value on implementing content and language objectives.
5. Teaching field was not linked to the teachers' self-rated degree and value on implementing content and language objectives.

6. Years of teaching was not linked to the teachers' self-rated degree and value on implementing content and language objectives.
7. Percentage of students ELL last year *was linked* to the teachers' self-rated degree and value on implementing content and language objectives.
8. Hours of ESL related training *was linked* to the teachers' self-rated degree and value on implementing content and language objectives.
9. Attainment of ESL certification was exempted from conclusive analysis.

The summary of hypotheses testing is presented in Table 48.

Table 48

Results of Hypotheses Testing

Model	Variable Entered	Adjusted R-Squared	F	Sig.
1	Gender	.003	1.70	.193
2	Race/Ethnicity	.000	1.013	.387
3	Teaching field	.021	2.389	.051
4	Years of teaching	.135	2.091	.082
5	Percentage of students ELL last year	.135	4.262	.002
6	Hours of ESL related training	.135	11.068	.000
7	Attainment of ESL certification	.018	5.765	.017

Chapter 5 reviews the purpose of the study and provides an overview of the methodology and discussion of the findings. In addition, Chapter 5 provides conclusions and recommendations for practice and future research.

Chapter 5

Summary, Findings, Recommendations, and Implications for Future Research

This chapter presents (1) a discussion of the purpose of the study, (2) an overview of the methodology, (3) a discussion of the findings, (4) recommendations for practice, (5) recommendations for further research, and (6) conclusions.

Purpose of the Study

With the rapidly growing ELL student population in U.S. public high schools, educators are in urgent need of developing instructional methods and strategies that facilitate ELL student learning in public schools so that these students meet the national and state standards as quickly as possible. In order to achieve this goal, educators are, regardless of their teaching fields, now encouraged to integrate their content-area instruction with language teaching in their daily teaching practice (Herrera & Murry, 2005). A number of researchers have argued that it is critical for teachers to identify content and language objectives so they can effectively integrate these two areas of instruction (Chamot & O'Malley, 1994; Echevarria et al., 2004; Gonzalez, Yawkey, & Minaya-Rowe, 2006; Herrera & Murry, 2005).

This study examined the ability of high school content-area teachers to provide high-quality instruction for ELL students by exploring the degree to which these teachers effectively integrate content and language objectives in the classroom. Past studies have focused on the ability of teachers to implement either content or language objectives, in

isolation, while this study emphasized the need to integrate these two types of objectives in order to meet the academic standards of NCLB for ELL students.

Given the importance of both content and language objectives for all students in meeting high academic standards, the integration of these two types of objectives should facilitate the academic progress of ELL students to an even greater degree (Chamot & O'Malley, 1994; Echevarria et al., 2004; Gonzalez, Yawkey, & Minaya-Rowe, 2006; Herrera & Murry, 2005).

The purpose of this study was to discover the answers to the following questions:

1. To what extent are content-area teachers of a selected group of high schools knowledgeable about the concept and the role of content and language objectives in ELL students' achievement in a content-area classroom?
2. To what extent to content-area teachers of a selected group of high schools value content and language objectives in their current instruction?
3. How are several demographic characteristics of content-area teachers of a selected group of high schools associated with their responses about their knowledge and value of content and language objectives?

Overview of the Methodology

A quantitative research design was chosen for this study because a survey instrument was deemed most appropriate for gathering information needed to answer the research questions. An understanding of teachers' self-perceived knowledge levels and perceptions about the role of content and language objectives can be quickly and easily

determined through the use of a self-reporting instrument. Therefore, the study was designed to solicit responses from content-area teachers in four Kansas high schools. This quantitative study explored the self-reported knowledge of high school content-area teachers on the role of content and language objectives in the instruction of ELL students. In addition, this study examined these teachers' perceptions on the degree to which they value implementation of these objectives.

Four high schools with high ELL enrollment and a high percentage of teachers taking graduate-level ESL courses participated in this survey. The teachers were asked to complete a *Survey of Teachers' Knowledge and Value of Implementation of Content and Language Objectives*. Of 367 surveys sent, a total of 283 surveys were returned. The survey included two sections: a demographics section and a support section.

The demographic section of the survey was designed to collect demographic information about participants in order to investigate if there was a link between participants' background and their self-reported degree of knowledge and value on implementing content and language objectives. The support section included 24 items that were drawn from a comprehensive review of the literature on the concept and role of content and language objectives. The respondents were asked to self-rate each item using the scale of 1-5, with 1 indicating that they "strongly disagree" with the statement and 5 indicating that they "strongly agree" with the statement. The lower the score, the lower the perception of the teacher regarding his or her knowledge and value on content and language objectives.

After the completed surveys were collected, descriptive statistics were used to generate the mean, standard deviation, and frequency distribution of the demographics of the samples, which were independent variables of this study. For items in the *Knowledge* section of the survey, a mean score of less than 3.0 was considered to demonstrate a lack of knowledge. For items in the *Value of Implementation* section of the survey, a mean score of less than 3.0 was considered to demonstrate a lack of valuing implementation.

In order to explore if there was significant difference between the teachers' self-reported knowledge on content objectives (KCO) and their perceived value on implementing content objectives (VICO), and the teachers' self-reported knowledge on language objectives (KLO) and their perceived value on implementing language objectives (VILO), inferential statistics on the research hypotheses were calculated using multiple correlation/regression and one-way ANOVA. The researcher investigated the patterns of regression between independent variables and dependent variables by looking at combination of independent variables and dependent variables one at a time. Significance for multiple regression tests was set at the $p \leq 0.05$ level. The researcher specifically considered the relationships detailed in Table 3.2 in terms of correlations and regressions. Due to the difference in the number of questions for VILO, the scores from the 1-5 Likert scale were translated to percent scores (20%-100%) in order to make the multiple regression tests more reasonable and comprehensive.

Discussion of the Findings

With few previous studies focusing on content and language objectives, the researcher wanted to investigate the implementation of content and language objectives in practice. In order to explore teachers' knowledge and value of implementation of these objectives at the high school level, three research questions were developed and examined.

Research Question 1

The researcher wanted to investigate to what extent high school content-area teachers were knowledgeable about content and language objectives. Respondents self-reported an average percent score of 78 on knowledge of content and language objectives, which showed that the teachers were not lacking knowledge on these objectives. However, the teachers self-reported that they were more knowledgeable on content objectives than on language objectives.

Research Question 2

The researcher also wanted to explore to what extent high school content-area teachers valued implementation of content and language objectives. Respondents self-reported an average percent score of 77 on value of content and language objectives, which indicated that the teachers were not lacking in the degree to which they value the implementation of content and language objectives. However, the teachers self-reported that they valued content objectives more than language objectives.

Research Question 3

The researcher wanted to determine whether demographic characteristics of high school content-area teachers are linked to the teachers' self-reported degree of knowledge and value on content and language objectives. For this study, the researcher developed seven null hypotheses, two of which were rejected.

1. There wouldn't be statistically significant difference between genders in grand total percent scores of the responses to the KVICLO survey—*retained*.
2. There would not be statistically significant differences among races/ethnicities in grand total percent scores of the responses to the KVICLO survey—*retained*.
3. There would not be statistically significant differences among teaching fields of respondents in grand total percent scores of the responses to the KVICLO survey—*retained*.
4. There would not be a statistically significant difference in grand total percent score of the responses to the KVICLO survey as a result of years of teaching—*retained*.
5. There would not be a statistically significant difference in grand total percent score of the responses to the KVICLO survey as a result of the percent of respondents' students who were ELL last year—*rejected*.
6. There would not be a statistically significant difference in grand total percent score of the responses to the KVICLO survey as a result of hours of ESL training respondents had received—*rejected*.
7. There would not be a statistically significant difference in grand total percent score of the responses to the KVICLO survey as a result of attainment of ESL certification—*undetermined*.

Two demographic characteristics of teachers investigated in this study were linked to teachers' self-reported degree of knowledge and value on content and language objectives:

a. Percentage of students ELL last year
b. Hours of ESL related training

Four demographic characteristics of teachers investigated in this study were not linked to teachers' self-reported degree of knowledge and value on content and language objectives:

a. Gender
b. Race/ethnicity
c. Teaching field
d. Years of teaching

One demographic characteristic of teachers investigated in this study was exempted from conclusive analysis:

a. Attainment of ESL certification

Recommendations for Practice

As a result of the completion of this quantitative research study, a number of significant recommendations for practice can be suggested.

<u>Recommendation 1.</u> Because the number of ELL students continues to increase, even those teachers who currently have a small number of ELL students in their classrooms must be willing to enhance their knowledge and value on content and language objectives.

Study results indicate that high school content-area teachers with less than 6% ELL students are less knowledgeable on the concept and role of language objectives and place less value on content and language objectives than teachers with more than 20% ELL students. As such, the results of this study suggest that teachers with a small percentage of ELL students should place a greater emphasis on content and language objectives.

<u>Recommendation 2.</u> Teacher educators for pre-service programs should place greater emphasis on the integration and implementation of content and language objectives. They should provide more educational experiences that focus on both the concept of language objectives and the proper development of language objectives.

Study results indicate that there is a need for greater emphasis on language objectives in future curriculum development endeavors. As a number of researchers suggest, the implementation of either type of objective in isolation from the other cannot be as effective as the integrated implementation of content and language objectives.

Recommendation 3. **Staff developers should be informed of a need to increase the professional development of in-service teachers with regard to language objectives.**

Study results indicate that hours of ESL training is significantly related to the teachers' self-rated degree of knowledge and value on implementing content and language objectives. Staff developers should encourage educators to (1) attain ESL certification, (2) attend workshops or in-service programs related to ESL education, (3) and participate in peer tutoring and group studies to learn more about ESL education.

Recommendation 4. **High school administrators should encourage teachers to collaborate with one another to enhance their knowledge and value on implementing content and language objectives in the classroom.**

The findings of this study indicate that there was a significant difference between teachers for whom ELL students constituted less than 5% of the class and teachers for whom ELL students comprised more than 20% of the class. Therefore, administrators should encourage teachers with small populations of ELL students to seek out colleagues for mentoring and guidance as they strive to incorporate content and language objectives in their instruction.

Recommendation 5. **The State Department of Education should incorporate the use of content and language objectives in licensure requirements aimed at school improvement.**

As a number of researchers have pointed to the importance of integrated implementation of content and language objectives, the State Department of Education should include the use of content and language objectives in licensure requirements in

order to encourage proper development and implementation of content and language objectives in the classroom.

Recommendations for Further Research

This section of Chapter 5 provides recommendations for future studies.

Recommendation 1. Future studies should include more specific investigations on the manner in which teachers construct language objectives.

Recommendation 2. Because the findings of this study rely on statistics, it is a recommendation that future qualitative studies be conducted to investigate teachers' degree of knowledge and value on content and language objectives in a more through and in-depth manner.

Recommendation 3. Future studies should pursue ways to encourage educators to participate in ESL related workshops or trainings as well as mentoring relationships with colleagues.

Recommendation 4. Future studies should seek ways to improve pre-service and in-service programs in order to provide more specific information on content and language objectives and their implementation.

Recommendation 5. Future studies should be conducted with samples that include comparable numbers of ESL certified teachers and non-ESL certified teachers.

Conclusions

Results from this study indicated that although high school content-area teachers self-reported that they are knowledgeable about and value implementation of content and language objectives, the grand total percent scores showed that their degree of knowledge and value on language objectives was lower than their degree of knowledge and value on content objectives. As the integration of content and language objectives is crucial for addressing the needs of current school environments where ELL student populations are continually growing, implementing adequately defined content and language objectives has become essential. In a classroom where content and language are simultaneously taught, language objectives should be equally valued and emphasized as content objectives. Therefore, future studies should investigate more thoroughly the adequacy of language objectives being used in classrooms, and teachers should be encouraged to implement language objectives as diligently as they do content objectives.

Results from this study also indicated that two demographic characteristics of high school content-area teachers can be linked to the teachers' degree of self-reported knowledge and value on content and language objectives: *percentage of students ELL* and *hours of ESL related training*. As the ELL student population continues to increase each year, teachers who currently have a small number of ELL students in their classroom should be willing to implement language objectives as a proactive effort. Pre-service as well as in-service programs should emphasize the benefits of language objectives and the importance of implementing them in the classroom with culturally and linguistically diverse students. Administrators should encourage teachers to take more ESL courses and workshops in order for them to learn how to more effectively develop and implement

language objectives. Finally, licensure requirements should emphasize knowledge on language objectives as much as knowledge on content objectives in order to encourage proper development and implementation of both content and language objectives in the classroom.

References

Alexander, D., Heaviside, S., & Farris, E. (1999). *Status of education reform in public elementary and secondary schools: Teacher's perspectives.* Washington, DC: Educational Resources Information Center.

Ancess, J., & Darling-Hammond, L. (1994). *Authentic teaching, learning, and assessment with new English learners at International High School.* New York: Educational Resource Information Center.

Bérubé, B. (2000). *Managing ESL programs in rural and small urban schools*. Alexandria, VA: Teachers of English to Speakers of Other Languages.

Bialystok, E. (1978). A theoretical model of second language learning. *Language Learning, 28,* 66-84.

Blair, R. (1982). *Innovative approaches to language teaching.* Rowley, MA: Newbury House.

Brinton, D., Snow, M. A., & Wesche, M. B. (1989). *Content-based second language instruction.* New York: Newbury House Publishers.

California State Department of Education. (1994). *Building bilingual instruction: Putting the pieces together*. Sacramento, CA: Bilingual Education Office.

Camarota, S. A. (2002). *Immigration in the United States 2002: A snapshot of America's foreign-born population.* Center for Immigration Studies. Retrieved November 28, 2005, from www.cis.org/articles/2002/back1302.html

Chamot, A. (1995). Implementing the cognitive academic language learning approach: CALLA in Arlington, VA. *Bilingual Research Journal, 19*(3-4), 379-394.

Chamot, A. U., & O'Malley, J. M. (1994). *The CALLA handbook: Implementing the cognitive academic language learning approach*. Reading, MA: Addison-Wesley Publishing Company.

Clair, N. (1995). Mainstream teachers and ESL students. *TESOL Quarterly, 29,* 189-196.

Collier, V. P. (1987). Age and rate of acquisition of second language for academic purposes. *TESOL Quarterly, 21,* 617-641.

Collier, V. P. (1995). *Promoting academic success for ESL students: Understanding second language acquisition for school*. Elizabeth, NJ: New Jersey Teachers of English to Speakers of Other Languages-Bilingual Educators.

Crandall, J. (1994). *Content-centered language learning*. ERIC Digest. Washington, DC: ERIC Clearinghouse on Language and Linguistics.

Crawford, J. W. (2002). Census 2000: A guide for the perplexed: Latest data on language use. Retrieved June 7, 2007 from http://ourworld.compuserve.com/homepages/jWCRAWFORD/census02.htm#1

Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In Office for Bilingual Bicultural Education C. F. Leyba (Ed.), *Schooling and language minority students: A theoretical framework* (pp. 3-49). Los Angeles: Evaluation, Dissemination and Assessment Center, CSULA.

Cummins, J. (1996). *Negotiating identities: Education for empowerment in a diverse society*. Los Angeles: California Association for Bilingual Education.

Cummins, J. (1999). *BICS and CALP: Clarifying the distinction*. (ERIC Document Reproduction Service No. ED438551)

Cummins, J. (2000). *Language, power and pedagogy: Bilingual children in the crossfire*. Clevedon, UK: Multilingual Matters.

Curtain, H. A., & Haas, M. (1995). *Integrating foreign language and content instruction in grades K-8.* Washington, DC: ERIC Clearinghouse on Language and Linguistics.

Cushner, K., McClelland, A., & Safford, P. (2006). *Human diversity in education: An integrative approach* (5th ed.). Boston: McGraw-Hill.

Darling-Hammond, L. (2000). *Solving the dilemmas of teacher supply, demand, and standards: How we can ensure a competent, caring, and qualified teacher for every child.* New York: National Commission on Teaching & America's Future.

Davila, G. (2006). Administrative guidelines in meeting the needs of culturally and linguistically diverse students (Doctoral dissertation, Kansas State University, 2006). *Dissertation Abstracts International.*

Diaz-Rico, L. T., & Weed, K. Z. (2002). *The crosscultural, language, and academic development handbook: A complete K-12 reference guide*. Boston: Allyn & Bacon.

Dulay, H. C., Burt, M. K., & Krashen, S. D. (1982). *Language two.* New York: Oxford University Press.

Escamilla, K. (1999). The false dichotomy between ESL and transitional bilingual education programs: Issues that challenge all of us. *Educational Considerations,* 26(2), 1-6.

Echevarria, J., & Graves, A. (2007). *Sheltered content instruction: Teaching English-language learners with diverse abilities* (3rd ed.). Boston: Allyn & Bacon.

Echevarria, J., Vogt, M., & Short, D. J. (2004). *Making content comprehensible for English language learners: The SIOP model* (2nd ed.). Boston: Allyn & Bacon.

Ferguson, V. (1998). *Case studies in cultural diversity: A workbook.* Sudbury, MA: Jones and Bartlett.

Fillmore, L. W., & Snow, C. E. (2000). *What teachers need to know about language.* Washington, DC: U.S. Department of Education, Educational Resources Information Center.

Flavell, J. H., & Wellman, T. (1977). Metamemory. In R. Kail & J. Hagen (Eds.), *Perspectives on the development of memory and cognition* (pp. 3-33). Hillsdale, NJ: Lawrence Erlbaum.

Freeman, Y. S., & Freeman, D. E. (1998). *ESL/EFL teaching: Principles for success.* Portsmouth, NH: Heinemann.

Freeman, Y. S., & Freeman D. E. (2005) *Dual language essentials for teachers and administrators.* Portsmouth, NH: Heinemann.

Freeman, D. E., Freeman, Y. S., & Mercuri, S. (2002). *Closing the achievement gap*. Portsmouth, NH: Heinemann.

García, G. E. (1998). Mexican-American bilingual students' metacognitive reading strategies: What's transferred, unique, problematic? *National Reading Conference Yearbook*, *47,* 253-263.

Genesee, F. (1994). *Educating second language children: The whole child, the whole curriculum, the whole community.* England: Cambridge University Press.

Goddard, T. (1997). Monocultural teaching and ethnoculturally diverse students. *Journal of Education, Administration and Foundation,12*(1), 30-35.

Goldhaber, D. (2002). The mystery of good teaching: Surveying the evidence on student achievement and teachers' characteristics. *Education Next, 2*(1), 50-55.

Goldhaber, D., Brewer, D. J., & Anderson, D. (1999). A three-way error components analysis of educational productivity. *Education Economics, 7*(3), 199-208.

Gonzalez, V., Yawkey, T., & Minaya-Rowe, L. (2006). *English-as-a second-language teaching and learning: Pre-K-12 classroom applications for students' academic achievement and development*. Boston: Pearson Education.

Grabe, W., & Stoller, F. L. (1997). Content-based instruction: Research foundations. In M. A. Snow, & D. M. Brinton (Eds.), *The content-based classroom: Perspectives on integrating language and content* (pp. 5-21). White Plains, NY: Longman.

Gronlund, N. E. (1973). *Preparing criterion-referenced tests for classroom instruction.* New York: Macmillan.

Gronlund, N. E. (2004). *Writing instructional objectives for teaching and assessment* (7th ed.). Upper Saddle River, NJ: Pearson Education.

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (1999, April). *Do higher salaries buy better teachers?* (Working Paper No. 7082). Cambridge, MA: National Bureau of Economic Research.

Herrera, S. G., & Murry, K. G. (2005). *Mastering ESL and bilingual methods: Differentiated instruction for culturally and linguistically diverse students*. Boston: Allyn & Bacon.

Jimenez, R., García, G. E., & Pearson, P. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles.

Reading Research Quarterly, 31, 90-112.

Kagan, S. (1986). Cooperative learning and socio-cultural factors in schooling. In *Beyond language: Social and cultural factors in schooling language minority students* (pp. 231-298). Los Angeles: Evaluation, Dissemination and Assessment Center, CSULA.

Kansas State Department of Education. (2006). *School report cards: 2005-2006*. Retrieved June 8, 2007, from http://online.ksde.org/rcard/

Karathanos, K. K. (2005). Exploring the self-reported perspectives and behaviors of predominantly English-speaking teachers regarding the incorporation of English language learners' native language instruction (Doctoral dissertation, Kansas State University, 2005). *Dissertation Abstracts International.*

Killeen, K. M., Monk, D. H., & Plecki, M. L. (2002, Summer). School district spending on professional development: Insights available from national data (1992-1998). *Journal of Education Finance, 28*, 25-50.

Kindler, A. L. (2002). *Survey of the states' limited English proficient students and available educational programs and services: 1999-2000 summary report*. Washington, DC: National Clearinghouse for English Language Acquisition and Language Instruction Educational Programs. Retrieved August 16, 2006, from www.ncela.gwu.edu/pubs/reports.

Krashen, S. (1977). The monitor model for adult second language performance. In M. Burt, H. Dulay, & M. Finocchiaro (Eds.), ***Viewpoints on English as a second language*** **(pp. 152-161). New York: Regents.**

Krashen, S. D. (1981). *Second language acquisition and second language learning.* New

York: Oxford University Press.

Krashen, S. D. (1982). *Principles and practice in second language acquisition.* Oxford: Pergamon.

Krashen, S. D. (1996). *Under attack: The case against bilingual education*. Culver City, CA: Language Education Associates.

Krashen, S. D. (2003). *Explorations in language acquisition and use*. Portsmouth, NH: Heinemann.

Krathwohl, D. R. (2004). *Methods of educational and social science research: An integrated approach* (2nd ed.). Long Grove, IL: Waveland Press.

Lachat, M. A. (2004). *Standards-based instruction and assessment for English language learners*. Thousand Oaks, CA: Corwin Press.

Lewelling, V. W. (1991). *Academic achievement in a second language*. (ERIC Document Reproduction Service No. ED329130)

Lin, W. S. (2004). The theory and practice of "literature group." *Journal of Education Research, 126,* 33-44.

Mager, R. F. (1962). *Preparing objectives for programmed instruction*. Belmont, CA: Fearon Publishers.

Mager, R. F. (1984). *Preparing instructional objectives* (2nd ed.). Belmont, CA: Lake Management and Training.

Marzano, R. J. (2003). *Classroom management that works: Research-based strategies for every teacher.* Alexandria, VA: Association for Supervision and Curriculum Development.

McLaughlin, M., & Shepard, L. A. (1995). *Improving education through standards-based reform: A report by the National Academy of Education panel on standards-based education reform*. Stanford, CA: National Academy of Education.

Met, M. (1991). Learning language through content: Learning content through language. *Foreign Language Annuals, 24*(4), 291-295.

Met, M. (1994). Teaching content through a second language. In F. Genesee (Ed.), *Educating second language children: The whole child, the whole curriculum, the whole community* (pp. 159-182). England: Cambridge University Press.

Miramontes, O. B., Nadeau, A., & Commins, N. I. (1998). *Restructuring schools for linguistic diversity: Linking decision making to effective programs.* New York: Teachers College Press.

National Center for Education Statistics (NCES). (1998). *Digest of education statistics, 1998.* Washington, DC: U.S. Department of Education.

National Center for Education statistics (NCES). (2002). *1999-2000 schools and staffing survey; Overview of the data for public school, private, public charter and Bureau of Indian Affairs elementary and secondary schools*. Washington, DC: U.S. Department of Education.

National Center for Education Statistics (NCES). (2005). *Participation in education.* Retrieved February 14, 2006, from http://nces.ed.gov/programs/coe/2005/section1/indicator05.asp

National Conference of State Legislatures (NCSL), (2007). *Immigrant policy: Demographics and the 2000 census*. Retrieved June 7, 2007, from www.ncsl.org/programs/immig/demographics2000census.htm

Northwest Regional Educational Laboratory (NWREL). (2003). *Strategies and resources for mainstream teachers of English language learners*. Portland, OR: Author. Retrieved May 30, 2007, from www.nwrel.org/request/2003may/ell.pdf

Numelin, K. (1998, November). The importance of sequencing and planning when integrating language and content. *ACIE Newsletter, 2*. Retrieved June 7, 2007, from http://carla.acad.umn.edu

O'Malley, J. M. & Chamot, A. U. (1990). *Learning strategies in second language acquisition.* New York: Cambridge University Press.

O'Malley, J., Chamot, A., Stewner-Manzanares, G., Russo, R., & Kupper, L. (1985a). Learning strategies used by beginning and intermediate ESL students. *Language Learning, 35,* 21-46.

O'Malley, J., Chamot, A., Stewner-Manzanares, G., Russo, R., & Kupper, L. (1985b). Learning strategies applications with students of English as a second language. *TESOL Quarterly, 19,* 285-296.

Ruiz-de-Velasco, J., & Fix, M. (2000). *Overlooked and underserved: Immigrant students in U.S. secondary schools*. Washington, DC: Urban Institute.

Snow, M. A., Met, M., & Genesee, F. (1989). A conceptual framework for the integration of language and content in second/foreign language instruction. *TESOL Quarterly, 23,* 201-217.

Sparks, D., & Hirsh, S. (1997). *A new vision for staff development.* Alexandra, VA:

Association for Supervision and Curriculum Development.

Teachers of English to Speakers of Other Languages (TESOL). (2003). *TESOL/NCATE program standards: Standards for the accreditation of initial programs in P-12 ESL teacher education*. Retrieved from www.tesol.org.

Tedick, D. J., Jorgensen, K., & Geffert, T. (2001). Content-based language instruction: The foundation of language immersion education. *American Council on Immersion Education Newsletter, 4*(3), 1-8.

Terrell, T. (1991). The natural approach in bilingual education. In C. F. Leyba (Ed.), *Schooling and language minority students: A theoretical framework* (pp. 279-280). Los Angeles: California State University, National Evaluation, Dissemination and Assessment Center.

Thomas, W. P., & Collier, V. P. (1999). Accelerated schooling for English language learners, *Educational Leadership, 56*(7), 46-49.

U.S. Department of Education (2006). *No Child Left Behind Act is working*. Washington, DC: Author. Retrieved May 25, 2007, from www.ed.gov/nclb/overview/importance/nclbworking.html

Verplaetse, L. S. (2002). How content teachers interact with English language learners. *TESOL Journal, 7*(5), 24-28.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Wenglinsky, H. (2002, February 13). How schools matter: The link between teacher classroom practices and student academic performance. *Education Policy Analysis Archives, 10*(12). Retrieved August 21, 2006, from

http://epaa.asu.edu/epaa/v10n12/

Wright, P., Horn, S., & Sanders, W. (1997). Teachers and classroom heterogeneity: Their effects on educational outcomes. *Journal of Personnel Evaluation in Education, 11*(1), 57-67.

Survey Instrument

Knowledge and Value of Implementation of

Content and Language Objectives

Demographics

1. Gender
   A. Female B. Male
2. Race/Ethnicity
   A. Asian/Pacific Islander
   B. Black/African American
   C. Hispanic
   D. White/Caucasian
   E. Other _____
3. What content area are you currently teaching?
   A. Math
   B. English
   C. Science
   D. Social Studies
   E. Other _____
4. How many years have you been teaching?
   A. Less than 1 year
   B. 1–5 years
   C. 6–10 years
   D. 11–15 years
   E. More than 15 years
5. To your knowledge, did you instruct students whose first language is other than English last year?
   A. No B. Yes
6. If yes, approximately what percentage of your students was ELL?
   A. 1–5%
   B. 6–10%
   C. 11–15%
   D. 16–20%
   E. More than 20%
7. How many hours of ESL training, including college classes, professional development, and workshops, have you received?
   A. None
   B. 1–3 hrs.
   C. 4–9 hrs.
   D. 10 –18 hrs.
   E. 18 or more
8. Are you ESL endorsed?
   A. No B. Yes

Directions: For each statement, mark the response that relates best to your present knowledge and performance.	*A. Strongly*	*B. Disagree*	*C. Undecided*	*D. Agree*	*E. Strongly Agree*
Knowledge					
Content Objectives:					
9. I am knowledgeable about how research defines content objectives.					
10. I am knowledgeable about the role content objectives play in academic achievement of students whose first language is other than English.					
11. I am aware that content objectives enable students to stay focused on the subject throughout the lesson.					
12. I am aware that content objectives influence the level of students' learning outcomes.					
13. I am aware that students should know, in advance, what they are expected to learn and be able to do after a lesson.					
Language Objectives:					
14. I am knowledgeable about how research defines language objectives.					
15. I am knowledgeable about the role language objectives play in students' language acquisition during the content lesson.					
16. I am aware that there are specific language needs (e.g., key content vocabulary, main concepts) for students who are learning the					

content that I am teaching.					
17. I am knowledgeable about the stages of second language acquisition.					
18. I am knowledgeable about ESL and/or TESOL curriculum and standards.					

Continued on back →

Directions: For each statement, mark the response that relates best to your present knowledge and performance.	*A. Strongly*	*B. Disagree*	*C. Undecided*	*D. Agree*	*E. Strongly Agree*
Value of Implementation					
Content Objectives:					
19. I develop content objectives that incorporate state or district standards.					
20. I develop content objectives and use them as an assessment tool to measure students' learning outcomes.					
21. I plan the lesson and learning activities to focus on students' achievement of the objectives.					
22. I ensure that all students understand the content objectives for each lesson.					
23. I post the clearly defined content objectives where all students can see them throughout the lesson.					
Language Objectives**:**					
24. I perceive myself as a language teacher as well as the content-area teacher, now that I have or will have students who are English as second language learners in my classroom.					
25. I develop language objectives based on the topic that will be taught in the lesson.					
26. I develop language objectives that emphasize on the main concepts and key vocabulary of the lesson.					

27. I include all four language domains—listening, speaking, reading, and writing—when developing language objectives.					
28. I select teaching materials that support students' attainment of the language objectives.					
29. I consider the stages of the second language acquisition and take my students' language proficiency levels into consideration when developing language objectives.					
30. I take the ESL/TESOL standards into consideration when developing language objectives.					
31. I ensure that all students understand the language objectives for the lesson.					
32. I post the clearly defined language objectives where all students can see them throughout the lesson.					

Survey Cover Letter

Dear Educator:

You have been chosen for this study because you are a certified content-area high school teacher who is currently teaching at a high school that has high rate of diversity represented in the student body. As the number of culturally and linguistically diverse (CLD) students in public schools in Kansas is increasing, you are very likely to have more CLD students in your classroom every year. With all schools and educators being under tremendous pressure to prove the effectiveness of their programs due to NCLB and the growing number of CLD students in public schools, it is urgent for educators to adopt instructional strategies that can facilitate English language learning (ELL) students' academic success.

Many studies have shown that implementing content and language objectives can help high school ELL students understand the subject being taught during class and facilitate their language learning. The purpose of this study is to explore the extent to which content-area high school teachers are knowledgeable about content and language objectives and the degree to which they value implementing these objectives in their classrooms.

Your responses to this survey will not be identified with you in any way and you will not be named in any report. Your responses will be completely confidential. Only summarized date will be shared. Your participation is also completely voluntary. You may stop participating at any time without explanation, penalty, or loss of benefits to which you would otherwise be entitled.

Your participation in this survey indicates that you have read and understand this letter and that you willingly agree to participate in this study. Your participation is truly appreciated. If you have any questions regarding to this survey, please contact Dr. Socorro Herrera at sococo@ksu.edu or by phone at 785-532-3877.

Thank you for your cooperation.

Sincerely,

Seong-shin Kim