Integrating Language and Content Instruction: A Linguistic and Cultural Guide for Content-Area Teachers of Asian International Secondary School Students in the US

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Integrating Language and Content Instruction: 
A Linguistic and Cultural Guide for Content-Area Teachers of 
Asian International Secondary School Students in the US

A Field Project Proposal Presented to 
The Faculty of the School of Education 
International and Multicultural Education Department

In Partial Fulfillment 
Of the Requirements for the Degree 
Master of Arts in Teaching English as a Second Language

By 
Joy Suzuki 
May 2017
Integrating Language and Content Instruction:
A Linguistic and Cultural Guide for Content-Area Teachers of
Asian International Secondary School Students in the US

In Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

in

TEACHING ENGLISH AS A SECOND LANGUAGE

by

Joy Suzuki
May 2017

UNIVERSITY OF SAN FRANCISCO

Under the guidance and approval of the committee, and approval by all the members, this field project has been accepted in partial fulfillment of the requirements for the degree.

Approved:

Instructor/Chairperson

Date
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Abstract

As more and more international Asian ESL high school students seek an education at private American high schools, where students spend most of their time in content-area classrooms, it is imperative that content-area teachers understand the important role they play in their students’ linguistic development and cultural adjustment. The purpose of this project is to provide teachers of content-area classes with an easily accessible professional development opportunity, including tools they need to help their international ESL students achieve linguistic and academic success and guide these students through a rewarding cross-cultural experience. As supported by second language acquisition theory, with the right training and preparation for effective teaching practices, the content-area classroom offers the ideal opportunity for academic language learning in a context that is authentic, meaningful, and motivating for international ESL students. The project, presented in the form of a website, gives content-area teachers information to help them gain an understanding of the basic principles of second language acquisition and implications for the content-area classroom, an awareness of the complexities of academic language that explain the linguistic challenges English language learners face in the classroom, a recognition of the formidable opportunity for language learning presented by content learning, an appreciation for the benefits of working collaboratively with ESL instructors, and a sensitivity to the cultural intricacies that help to explain some of the behaviors and attitudes of ESL students in the American classroom. In short, they can learn ways to become a good teacher for every student in their classroom.
CHAPTER I
INTRODUCTION

Statement of the Problem

When students from one country enter another country with the express purpose of studying, they join millions of other international students from around the world who have embarked on a similar journey. Governments and international organizations across the globe promote international student exchange as an important means of developing global citizens who can potentially be at the forefront of creating international understanding and trust between the world’s nations. Ideally, international students form bonds with people who speak different languages and view the world from a different cultural perspective, and can potentially become advocates of world peace through the understanding of such differences. At the individual level, students may make the decision to study in another country for a myriad of reasons, from an interest in learning another language, to a desire to gain a competitive advantage in the job market, to simply a wish for experiencing an adventure (Macready & Tucker, 2011). The number of international students pursuing university education abroad continues to grow exponentially, increasing from 3 million in 2005 to 4.3 million in 2011. This total is expected to grow to 8 million by the year 2025 (Institute of International Education [IIE], 2015).

A research brief published by the International Institute of Education and authored by Christine Farrugia (2014) analyzes the shifting mobility trends of international students seeking a U.S. education. The report notes that the increasing number of international students pursuing post-secondary education outside of their home countries is closely linked to the growing number of international secondary students.
coming to study in the US. The US is a popular destination for international students, and as coveted spots at the most prestigious universities become more and more competitive, many international students consider attending and graduating from an American high school as a means of gaining a competitive edge for admission to American universities. These students believe that exposure and successful adjustment to American high school classrooms will not only demonstrate their academic, linguistic and cultural skills to college admissions officers, but will also help them adjust more successfully to college life. From 2004 to 2013, the number of international secondary students in the US nearly tripled, and out of the 73,019 students attending American high schools, over one third of the students were enrolled with the intention of earning a high school diploma (Farrugia, 2014). Federal visa regulations limit international students to attending public high school for a maximum of one year on a cultural and educational exchange (J-1) visa. As such, the fact that the large majority of international secondary students in the US are enrolled in private high schools on the more long-term visa intended for international students studying at academic institutions (F-1 Visa) is an indication of this intention. Significantly, more than half of the international high school students are from Asia. Chinese students are the largest single group of international students studying at American high schools, while South Korea and Japan rank within the top ten countries of origin of international secondary students (Farrugia, 2014).

While strong demand from Asian students is the impetus for increased international student enrollment, American high schools have their own reasons, both ideological and pragmatic, for bringing these students onto their campuses. International student enrollment is promoted as having the potential to provide an opportunity for both
international and domestic students to learn valuable cross-cultural skills, thus promoting global understanding. At the same time, schools can fill spots left vacant from decreased enrollment of domestic students (Macready & Tucker, 2011). Exemplifying the ideal scenario, some private high schools around the country have a long history of admitting international students and have subsequently established strong systems of support for English as a second language (ESL) students. Such programs might include pre-departure programs conducted in the students’ host countries, orientation programs for students once they arrive in the US, a strong cohort of ESL teachers, a tight communication link between ESL and content-area teachers, and professional development for teachers of all subjects focusing on methods of assisting ESL students both in and out of the classroom (Short, 1999). Unfortunately, there are many private high schools that are unaccustomed to handling ESL students yet still accept them into their program in increasing numbers (Dong, 2004; Reeves, 2006).

However lofty the goals of international study programs, the cross-cultural experience can be a challenging one, particularly for younger students. There has been a plethora of studies documenting the linguistic, academic, and cultural difficulties the international sojourners confront in their new environment (Adler, 1975; Church, 1982; Gudykunst & Kim, 1987; Gullahorn & Gullahorn, 1963; Meintel, 1973; Oberg, 1960; Popadiuk & Marshall, 2011; Ward, Bochner, & Furnham, 2001; Ward & Kennedy, 1993). Furthermore, it has been shown that the greater the linguistic and cultural distance between two countries, the more significant the challenges for international students can be (Brown, 1992; Church, 1982; Ward et al., 2001; Ward & Kennedy, 1993). Such findings are important in understanding the cross-cultural experiences of Asian students.
whose linguistic and cultural background contrasts extensively with the language and culture of the US. Additional challenges lay in store for adolescents who are embarking on the international sojourn without their families, as is frequently the case with international secondary students (Popadiuk, 2010; Popadiuk & Marshall, 2011). As more and more high school students seek an education at private American high schools, there is a great urgency for both students and teachers to be aware of the challenges that students will face. Having an understanding of these issues and knowing how to cope with them when problems arise is key to students’ success in adapting linguistically, academically and culturally to their new surroundings (Clair, 1995; Dong, 2004; Echevarria, Short, & Powers, 2008). Teachers can only begin to assist students with the adjustment process, however, if they themselves are aware of what this process entails.

Typically, albeit not always, ESL teachers not only have personal experience learning a second language and/or traveling, studying or living abroad, but are also trained to address linguistic, academic and cultural challenges that ESL students face in the American classroom. It is certainly not the norm, however, that content-area teachers have similar international background or training (Samson & Collins, 2012). Nonetheless, ESL students spend most of their school day in the content classroom taught by content-area teachers, many of who consider language teaching to be outside of their realm of expertise (Dong, 2004). In fact, there is tremendous opportunity for ESL students to learn English while they are learning content (Snow, 2005). In order for this to happen, however, it takes much more than being a good teacher (De Jong & Harper, 2005). In many cases, content-area teachers are finding that techniques that were effective for previously less diverse classrooms are inadequate to help their Asian ESL
students succeed in the classroom (Walker, Shafer, & Iiams, 2004). The content-area teacher needs to have an appreciation for their role as both a language and content teacher, a knowledge of the process of second language acquisition, and an understanding of the cultural background of their ESL students (Dong, 2004; Echevarria et al., 2008). The fact is that being a good content teacher is not enough (De Jong & Harper, 2005). In order for international student enrollment to benefit both the students and the high schools they are attending, it is imperative that content-area teachers are made aware of and also professionally trained in effective methods of supporting linguistically and culturally diverse ESL students in academic study in their high school classrooms (Clair, 1995; DelliCarpini & Alonso, 2013; Dong, 2004; Echevarria et al., 2008; Walker et al., 2004).

The number of international secondary school students from Asia coming to study at private high schools in the US continues to grow (Austin & Shen, 2016; Farrugia, 2014). These students are adolescents with unique concerns, embarking on a challenging journey in most cases without their family. The issues that they will face – linguistic, academic, and cultural – are both complex and interrelated (Popadiuk, 2010). It is imperative that content-area teachers recognize and respond to the opportunity for language learning that can take place in every classroom, not only the ESL classroom (De Jong & Harper, 2005). Student success depends a great deal on the ability of all classroom teachers to recognize and respond appropriately to the needs of these international ESL student, needs that differ greatly from the mono-lingual, mono-cultural private school population to which many of these teachers are accustomed (Dong, 2004; Echevarria et al., 2008; Horn, 2011; Meyer, 2000; Walker et al., 2004). There is a
pressing need to provide teachers of content-area classes with easily accessible professional development opportunities that will give instructors the tools they need to help their ESL students achieve linguistic and academic success, and to guide these students through a rewarding cross-cultural experience.

**Purpose of the Project**

The purpose of this project is, first and foremost, to promote awareness among content-area secondary school teachers of their own essential role as not only a content teacher but as a language teacher and cultural informant. To help content-area teachers understand the important role they play in their students’ linguistic development and cultural adjustment, the project seeks to familiarize non-ESL teachers with the range of linguistic and cultural issues that Asian students are most likely to encounter as they negotiate their new environment in the American high school content-area classroom. Additionally, the project introduces content-area teachers to salient research in second language acquisition so that they can better understand the linguistic needs of their English language learners (ELLs). Furthermore, the project provides a cultural overview of Asian educational systems, specifically those of China, South Korea and Japan, to provide content-area teachers with an understanding of their students’ cultural background. In this way, teachers can be encouraged to step outside of their own cultural boundaries when diagnosing student difficulties in the classroom. Finally, the project offers concrete suggestions for linguistically- and culturally-sensitive strategies that might be used in the classroom to promote the academic success of ESL students.

The project takes the form of an online website designed specifically for content-area secondary teachers, although it is also a useful resource for ESL teachers and high
school administrators as well. The website can be thought of as an online workshop that includes topics of interest to the content-area teachers as well as a series of videos, which teachers can choose to read or watch according to their own situational needs and interests. Videos include topics such as stepping inside the Asian classroom and East meets West in cross-cultural classroom encounters. The website also includes links to such topics as the implications of second language acquisition research for content secondary classrooms, suggestions and outcomes in collaboration between content-area and ESL teachers, quick teaching tips for content classroom teachers, selected classroom activities for teachers of ESL students in the content-area classroom, suggestions for teachers from the perspective of Asian ESL students, suggestions for further reading in the field of second language learning, and links to other relevant websites.

**Theoretical Framework**

Three theoretical concepts in the field of second language acquisition provide the fundamental framework for this project: Vygotsky’s zone of proximal development (ZPD), Cummins’ ideas on the distinction of basic interpersonal communication skills (BICS) and cognitive/academic language proficiency (CALP), and the content-based instruction (CBI) approach to curriculum development. The ideas of Russian psycholinguist, Lev Vygotsky, on the social construction of thought and language, as well as his metaphorical zone of proximal development, offer a framework for understanding how social interactions with teachers or advanced learners might assist the language learner to reach the next level of language learning. The concept of BICS and CALP is often applied in discussions of language learning in academic settings as a means of distinguishing levels of language proficiency for different contexts. Content-
based instruction is advocated as a communicative language teaching approach to curriculum development that focuses on fostering language learning and content learning simultaneously.

**Social Constructivism and The Zone of Proximal Development (ZPD)**

Vygotsky (1978) considered social interaction to have a central role in children’s development as they think about and make sense of the world around them. Examining the connection between learning and development, he used the metaphor of the “zone of proximal development” to explain the space between a learner’s development as indicated by an ability to solve problems without support from others and the potential development that the learner might be able to achieve with the help of a teacher or more competent peers (Vygotsky, 1978, p. 84). There are then sequences of the zone of proximal development as the learner continues to develop, accumulating new knowledge with the help of others at first, and then demonstrating the ability without assistance later. Development can then move another step further through the process of external assistance and subsequent internalization of new knowledge. Language and learning, however, according to Vygotsky, are dynamically and intricately linked in ways that do not follow a straight path. For the language learner, this means that language emerges as the learner interacts with the environment, and social interactions can lead to internalization of new knowledge (Vygotsky, 1978). The idea of socially constructed knowledge has formed the theoretical foundation for a number of studies in the field of second language acquisition (Lantolf, 2000; Swain, 2000). Content-area teachers in the secondary school classroom have an important role to play in the academic and linguistic development of the ESL students in their classrooms. With an understanding of the
student’s ZPD, teachers can provide the scaffolding necessary to push language learners to reach the next level of development.

**BICS and CALP**

Cummins (1984, 1992) offered a useful theoretical framework for conceptualizing two distinctive categories of language proficiency, which he classified as basic interpersonal communicative skills (BICS) and cognitive/academic language proficiency (CALP). BICS refers to social language that is used in daily conversation in situations that are highly contextualized. CALP, on the other hand, is the language most commonly used in the classroom for academic purposes that is much more decontextualized. The latter requires deeper levels of understanding of the language, as there are fewer situational cues and opportunities to negotiate meaning in academic tasks, and is much more cognitively demanding than BICS. Cummins further clarified his framework by depicting the distinction between these two types of language proficiency in the form of four quadrants. The vertical continuum ranges from cognitively undemanding to cognitively demanding, and the horizontal continuum ranges from context embedded to context reduced. Any linguistic task could be placed in one of the four quadrants based on where it fits within these two continuums, whether it be a casual conversation with a friend, an abstract scientific discussion, or writing an essay for history class (Collier, 1987; Cummins, 1992, 2001). Research has demonstrated that, while it may take a second language learner about two years to be able to communicate at a basic conversational level, developing CALP has been shown to take up to seven years, with a broad range of variables influencing successful academic language development (Collier, 1987; Collier & Thomas, 1999; Cummins, 1984; Hakuta, Butler, & Witt, 2000;
Roessingh, 2008). In the secondary school classroom, it is important for educators to understand that just because a student communicates with apparent ease in everyday social conversations does not mean that the student will be able to function successfully in the academic realm (Echevarria, Richards-Tutor, Chinn, & Ratleff, 2011). English language learners in the content-area secondary school classroom who have achieved BICS still require many more years of linguistic support for the development of CALP that is necessary for success in such content-area subjects such as history, physics, biology, or English literature.

**Content-based Instruction (CBI)**

Content-based instruction (CBI) is an approach to curricular design that seeks to integrate language learning with content learning (Snow, 2005). Mohan (1986) is considered to be among the first to clearly call for an approach that combines language learning and content learning, focuses on language as a medium of learning, and recognizes the content class as a context for communicative learning. There have been many researchers who have sought to define such an approach, but the definitions have been found to share the following features:

- CBI allows for a meaningful context for language learning and teaching.
- The curriculum as well as the organization of the course stems from the content.
- Both language and content are presented simultaneously in the classroom.
- Language learning is fostered through the presentation of the content material in a manner that learners can understand, or comprehensible input.
- Language learning can occur when content is presented in the form of comprehensible input (Brinton & Holten, 2001).
CBI as an approach to curricular designs fits within the larger framework of the communicative language teaching (CLT) approach in that the focus is on providing opportunities for learners to develop communicative competence by engaging them in using language for meaningful and authentic purposes (Snow, 2005). Much of the research literature that informs this project – research in immersion programs (Met, 1999; Swain, 2001; Swain & Lapkin, 1998), sheltered instruction (Echevarría et al., 2008; Knoblock & Youngquist, 2016; Short, 2013; Short, Fidelman, & Louguit, 2012), and ESL and content-area teacher collaboration (Creese, 2010; Davison, 2006; DelliCarpini & Alonso, 2014; Harklau, 1999; Kong, 2014; Lo, 2015) – fit within the CBI approach to curricular design. While specific suggestions for ideas in language instruction offered in this project come from a wide variety of theories in second language acquisition, the basic premise is that the content classroom provides an ideal opportunity for language learning in an authentic context, and that if content teachers dismiss their important role as language teachers then that opportunity is lost.

**Significance of the Project**

Content-area teachers who make use of the online resources covered on the website can gain an appreciation for their role as not only content teachers but also language mentors of their ESL students. Many content-area teachers of ESL students consider their students’ linguistic and cultural issues to be outside of their own domain and instead view such concerns as the responsibility of ESL teachers (Horn, 2011; Lucas, Villegas, & Freedson-Gonzalez, 2008). However, while the ESL teacher should be considered as a valuable resource of information and expertise in the areas of language and culture, it is also necessary for content-area teachers of ESL students to think of
themselves as language teachers. The project helps content-area teachers understand that linguistic and cultural issues do indeed fall within the realm of all teachers of ESL students, not only ESL teachers. Content-area teachers can also become familiar with research in second language acquisition that is pertinent to the language learning of their students. In addition, they can gain a clearer understanding of the ways in which culture and language are intertwined. Content-area teachers are encouraged to consider not only how their own words and actions are determined by cultural-specific worldviews but also how their students’ classroom behavior and attitudes reflect different perspectives.

In addition to assisting content-area teachers, the project also provides benefits to ESL instructors in private high schools. ESL teachers, as mentioned above, are often considered to be responsible for taking care of the needs of the English language learners at their school. By using the website created through this project, ESL teachers have access to ready-made resources to provide to content-area teachers at their schools. They can use these online resources as a starting point, individualize them, and present the ideas in ways befitting the training needs and interests of the content-area teachers at their respective institutions. In situations where such structures are not in place, the ESL teachers can take the initiative to implement collaborative endeavors at their own schools, using the project as a resource for suggestions on collaboration between content and ESL teachers.

High school administrators might also find the resources helpful, and indeed must to be a part of the process of establishing more effective collaboration between content-area teachers and ESL teachers. As administrators have the overall success of their respective institutions to consider, it is important that they find ways to encourage
opportunities for inter-staff cooperative and professional development. It is essential for administrators to be aware of what is and is not working in the classrooms, and to be informed well enough to make suggestions for improvements and to provide the staff with the wherewithal to carry out these recommendations. In accepting Asian ESL students, administrators have the responsibility to make sure that their schools are providing the opportunity for their academic success.

Finally, the project provides benefits to students at the private high schools taught by the teachers for whom the resources have been created. The starting point of the project is the voices of Asian ESL students and the issues they are encountering in the classroom. The project allows content-area teachers to hear these voices and consider ways they can better serve the needs of their ESL students. Furthermore, when both content and ESL teachers successfully implement collaborative strategies that help English language learners succeed in the classroom, the native speakers that share those classrooms with these students can benefit as well. The classrooms can more effectively become the center for opportunities for building intercultural understanding and trust among students from around the world.

**Definition of Terms**

**adjunct model of instruction:** One of the models of content-based instruction in which the language course and the content course are interconnected, with both the content instructor and the language instructor sharing the responsibility for student learning. In this model, equal emphasis is placed on content and language learning (Met, 1999).

**basic interpersonal communicative skills (BICS):** BICS is a concept developed by Cummins (1984, 1992) that refers to social language used in daily conversation in
situations that are highly contextualized and less cognitively challenging. BICS is opposed to CALP, the language most commonly used in the classroom for academic purposes that is typically decontextualized and more cognitively challenging.

**cognitive/academic language proficiency (CALP):** CALP is a concept developed by Cummins (1984, 1992) that refers to the language most commonly used in the classroom for academic purposes, and is typically decontextualized and cognitively challenging. CALP is opposed to BICS, the social language that is used in daily conversation in situations that are highly contextualized and less cognitively challenging.

**communicative language teaching (CLT):** CLT is an approach to language teaching methodology that focuses on providing opportunities for learners to develop communicative competence – that is, the ability to express themselves and negotiate meaning in context – by engaging them in using language for meaningful and authentic purposes (Savignon, 2005).

**content and language integrated learning (CLIL):** CLIL is an umbrella term to encompass educational approaches that use an additional language for simultaneously teaching and learning content and language. The approach is similar to CBI but the term CLIL is used mainly in Europe, while CBI is used in North America (Cenoz, 2015).

**content-area:** Content-area, subject-area and mainstream are used to describe regular school classrooms, such as biology or history (non-ESL), in which the course design, teaching, and learning are designed for native or proficient speakers of the dominant language.

**content-based instruction (CBI):** CBI is used as an umbrella term for approaches to curricular design that seek to integrate language learning with content learning (Snow,
Both language and academic subject matter are presented simultaneously in the classroom, but the curriculum as well as the organization of the course stems from the content. Use-oriented language learning is fostered through the presentation of the meaningful and authentic content material in a manner that learners can understand. (Brinton & Holten, 2001).

**culture shock:** Oberg (1960) defined culture shock as the stress and anxiety that is brought on by being removed from familiar, and culturally-determined, cues for behaving and interacting with others.

**English as a second language (ESL):** ESL is a general term to describe English learned as a foreign language (not necessarily the second language) within English-speaking countries (Brown, 2007).

**immersion education:** Immersion education is a model of second and foreign language instruction that offers intensive exposure to a language by delivering the regular school curriculum through the target language; the target language is the medium of instruction but not the focus of study (Brinton, Snow, & Wesche, 2003).

**English for academic purposes (EAP):** EAP is a subdomain of English for Specific Purposes (ESP) in which courses, classes, and/or programs are designed for students in English-speaking countries, generally serving specific occupations, fields, or postsecondary levels of study, where the objectives and content are defined according to students’ second language needs for academic purposes (Brinton et al., 2003).

**English for specific purposes (ESP):** ESP encompasses language courses that focus on authentic uses of English as required for specific professions or occupations (Brinton et al., 2003).
**mainstream:** Mainstream refers to the regular school classrooms, such as biology or history (non-ESL), in which the course design, teaching, and learning are designed for native or proficient speakers of the dominant language (Brinton et al., 2003). Since the term can convey negative connotations – that classes other than mainstream, such as ESL classes, are in some way deficient – content-area and subject-area is often used instead throughout this project. However, since mainstream is frequently used in the literature, the literature review includes all three terms.

**native speaker (NS):** NS is often used in second language acquisition theory to refer to highly proficient users of the language, typically speakers who grew up speaking the dominant language.

**non-native speaker (NNS):** NNS is often used in second language acquisition theory to refer to less proficient users of the language, speakers whose native language is one other than the dominant language.

**sheltered instruction (SI):** Sheltered instruction is an approach that emphasizes developing knowledge in specific subject areas while also aiming to address the language needs of the learners by modifying content to make it more comprehensible and accessible to language learners (Met, 1999).

**sheltered instruction observation protocol (SIOP):** The SIOP model was a 7-year project (1996-2003) of 30 different research studies conducted for the Center for Research on Education, Diversity and Excellence (CREDE) and funded by the U.S. Department of Education. The SIOP model provides a framework for teaching content area classes using techniques and strategies that help make the content more
comprehensible for ELLs and is used to guide professional development programs in
sheltered instruction (Echevarría et al., 2008; Short et al., 2012).

**subject-area:** Subject-area, content-area, and mainstream are used to describe regular
school classrooms, such as biology or history (non-ESL), in which the course design,
teaching, and learning are designed for native or proficient speakers of the dominant
language.

**sustained content language teaching (SCLT):** A variation to theme-based instruction,
SCLT a course design in which teaching and learning is focused on one theme or topic
(instead of several different themes, as in theme-based instruction) to give learners in-
depth knowledge in one subject area and exposure to authentic academic language use
(Brinton et al., 2003).

**Zone of Proximal Development (ZPD):** Vygotsky (1978) used the metaphor of the
ZPD to explain the space between a learner’s development as indicated by an ability to
solve problems without support from others and the potential development that the
learner might be able to achieve with the help of a teacher or more competent peers.
CHAPTER II
REVIEW OF THE LITERATURE

Introduction

This project seeks to provide secondary school content-area teachers with an understanding of the academic, linguistic and cultural challenges that Asian international ESL students face in the classroom. The goal is to demonstrate ways in which the content-area (also referred to as subject-area or mainstream in the literature) classroom presents valuable opportunities for language and cultural learning alongside rigorous content learning. For these opportunities to be realized, content-area teachers need to embrace the role of language teacher and cultural mentor and learn strategies for helping students achieve success in the classroom. While many strategies that apply to good teaching also can be used in working with ESL students, being a good teacher is not enough (De Jong & Harper, 2005; Harklau, 1999). In addition to having good teaching skills, content-area teachers need to have an understanding of the basic principles of second language acquisition and the way these ideas might be applied in the content-area classroom (Baecher, Farnsworth, & Ediger, 2014; Tamara Lucas & Villegas, 2013), an awareness of the complexities of academic language that explain the linguistic challenges English language face in the classroom (Cummins, 2000; Lucas et al., 2008; Samson & Collins, 2012), a recognition of the formidable opportunity for language learning presented by content learning (Brinton et al., 2003; Mohan, 1986; Mohan, Leung, & Davison, 2001; Snow, 2005), an appreciation for the benefits of working collaboratively with ESL instructors (Cammarata, 2009; DelliCarpini & Alonso, 2013; Kong, 2015), and a sensitivity to the cultural intricacies that help to explain some of the behaviors and
attitudes of ESL students in the American classroom (DeCapua & Wintergerst, 2004; Scarcella, 1992; Ward et al., 2001).

The scope of the project is broad and as such draws upon a wide range of theories and frameworks with a multidisciplinary perspective. In the study of second language acquisition, three well-known theories are explored – the input hypothesis (Krashen, 1985), and the output hypothesis (Swain, 1993, 2005) the interaction hypothesis (Gass, 2003; Hatch, 1978; Long, 1981; Pica, 1994) – to offer insight into how language is thought to be acquired in the classroom. In addition, second language acquisition research provides an understanding of academic language and the complexities of the language of the classroom (Cummins, 1984, 1992; DiCerbo, Anstrom, Baker, & Rivera, 2014). Communicative approaches to second language learning include content-based instruction, in which the content classroom, providing exposure to meaningful and authentic language, is considered to have a strong influence on language learning and motivation in that it relates directly to the needs and experiences of ESL students in the classroom (Brinton et al., 2003; Snow, 2005). Related to content-based instruction are frameworks that contribute to an understanding of useful strategies and techniques for sheltered instruction, with a focus on making classroom language more accessible and comprehensible for the ESL student (Echevarría et al., 2008; Knoblock & Youngquist, 2016; Short et al., 2012). In addition, research has demonstrated conceptual frameworks, examples, benefits and constraints of effective collaboration between content-area and ESL educators (Davison, 2006; DelliCarpini & Alonso, 2014; Kong, 2014). Finally, research in cross-cultural communication offers insights regarding the challenges that
ESL students experience in the face of cross-cultural encounters in the classroom (DeCapua & Wintergerst, 2004; Scarcella, 1992; Ward et al., 2001).

**Theories in Second Language Acquisition: Input, Output and Interaction**

As the focus of this project in on second language learning in the classroom setting, it is important to consider ways in which the classroom serves as the backdrop for language learning. Studies that consider language learning in the classroom include those that focus input, interaction, output, or a combination of these opportunities for language acquisition. Is the most essential contributor to language learner the exposure to understandable input, opportunities for interaction with classmates and teachers, or does learning stem from the process involved in producing the language? While the exact causal factors for second language acquisition continue to be analyzed and debated, what it agreed upon is that the development of proficiency in a second language is an extremely complex process (Gass, 1997). We turn to a review of some of the seminal works in the field and consider how these theories continue to inform more recent research.

**Comprehensible Input**

It is stating the obvious to point out that language learning cannot occur without some sort of language input, and consequently, any model of language learning includes the notion of input. The role of input, however, is characterized in various ways in different theories of second language acquisition (Gass, 1997). In what is known as the input hypothesis, Krashen (1985, 1982) proposed that the central determinant of language acquisition comes through understanding messages, or what he termed *comprehensible input*. He further explained that in order for input to be comprehensible, it must be
delivered in just the right quantity and at a level that is just above the acquirer’s current level, or “i + 1”, and that a positive affective environment would further assist the acquisition process (Krashen, 1982). He proposed that any other aspect that influences acquisition can only be considered to do so in so far as it contributes to comprehensible input. He indicated programs such as bilingual education, immersion programs and sheltered language teaching as examples of teaching environments that can facilitate acquisition through comprehensible input (Krashen, 1985). While most applied linguists would agree that comprehensible input is one of the variables in second language acquisition, Krashen’s assertion that it is the only fundamental condition for learning a second language is highly contested (Cummins, 1994). That said, it is important to note that, while criticisms of the theory that comprehensible input is both necessary and sufficient for second language acquisition have focused on the fact that comprehensible input is not sufficient, none have argued that it is not necessary (Knoblock & Youngquist, 2016).

**Comprehensible Output**

Swain (1993), while not disputing the notion that input comprehensible plays a critical role in language acquisition, proposed that a parallel concept, what she termed *comprehensible output*, is just as essential in the process of acquiring a language. Swain provided evidence for the output hypothesis based on anecdotes from decades of research in French immersion education. She noted that, although immersion students were undeniably exposed to a great deal of comprehensible input, their competence in the spoken and written language still fell well below that of their native speaker peers (Swain, 2005). While Krashen (1982) argued that output was only important in so far as
it created more comprehensible input, Swain believed that output had a role beyond that of contributing to input. She viewed output not as language production in and of itself but rather as an intricate internal and external process of producing language that contributes to a more in-depth understanding of the language. In this way, output fosters the development of language competence (Swain, 1985, 1993). She proposed four ways in which output might contribute to the language learning process. First, output can help language learners develop fluency by giving the learner the opportunity to practice using the language they have already acquired in meaningful communication. A second way that output can help in the language learning process is that in attempting to produce the language, the learner can then notice what they are able to do and where they might still be having problems. At this point, the learner can choose to ignore their deficiency, try to fix the error, or listen carefully to input so that they can try to correct their error the next time they produce the language. Trying out a hypothesis is a third way that output can contribute to the learning process. Learners can test their ideas about the language and see if they work in communication. If not, the fourth way that output can provide a path to learning is through the feedback that errors might elicit. The learner’s attempt at language production can create a response that might inform the learner on the comprehensibility or accuracy of the output. In this way, learners process the language once more and try again to produce the language accurately (Swain, 1993). In later research, Swain (2000) embraced a more sociocultural perspective of the concept and speculated that the term “collaborative dialogue” might be a better way to frame the idea of output as a process of acquisition (Swain, 2000). This idea will be explained further in the discussion of the social constructivist perspective below.
Social Constructivism and Interaction

Other theorists have considered both input and output, and how these concepts of language learning occur in the process of acquisition through social interaction. As discussed in Chapter I, a number of studies in second language acquisition are framed around the notion that knowledge is constructed in social contexts (Lantolf, 2000; Swain, 2000). The theories of Vygotsky that focus on the ways that language is socially and culturally constructed have been applied to a wide range of teaching and learning contexts (Ohta, 2000). Vygotsky’s Zone of Proximal Development (ZPD) portrays the connection between learning and development, and focuses on the important connection between the learner and the learning environment (Vygotsky, 1978). Basically, the ZPD recognizes a learner’s potential development and the social process of accumulating new knowledge; what the learner does in cooperation with others in the present can become something the learner is able to do alone in the future. Development occurs unpredictably through the process of mediated social interactions, including language. For the language learner, language emerges as the learner interacts with the environment, and social interactions can lead to internalization of new knowledge (Vygotsky, 1978).

The notion that interaction might provide insights into second language acquisition was proposed by Hatch in the late 1970’s (Pica, 1994). Her ideas regarding language learning and interaction provided inspiration for many who responded to her appeal to researchers to examine how second language acquisition might develop out of the communicating with others, rather than focusing on how language learning generates communication (Pica, 1994). Hatch (1978) considered how research in first language acquisition using discourse analysis might provide insights for the study of second
language acquisition. Her ideas followed research that analyzed foreigner talk, that is the tendency for native speakers (NSs) to simplify or otherwise adjust their speech when conversing with non-native speakers (NNSs) to make their utterances more comprehensible. Tactics such as simplification, repetition, restatement, requests for clarification, or redirecting topic selection are common in conversations between NSs and NNSs. Hatch proposed that such conversational strategies might assist the learner in acquiring a second language (Hatch, 1978).

Long (1981) expanded the idea of comprehensible input and took on Hatch’s charge to consider the role of conversation in second language learning in his seminal work which analyzed the interplay of input and interaction in second language acquisition. Long considered conversations between NSs and NNSs and the ways in which input and interaction is adjusted to keep the conversation going. In what he first termed interactional modification (1981) and later termed negotiation of meaning (1996), Long pointed to the use of such strategies as repetition or clarification often used for repairing interaction that might otherwise break down. He noted the tendency of NSs to slow down or simplify their speech when interacting with NNSs. Other strategies for modifying input include repetition, comprehension checks, clarification requests, or changing the topic of conversation. He hypothesized that these types of adjustments, which allowed the learner to participate in conversations with NSs by fostering comprehensible input, enhanced second language acquisition (Long, 1996). Pica (1994) considered how negotiation of meaning can potentially help the learner to understand input as well as highlight certain language forms and in this way assist in second language acquisition.
The basic idea of the interaction hypothesis (Gass, 1997; Long, 1981, 1996; Pica, 1994; Polio & Gass, 1998) is that second language acquisition is fostered when the NNS interacts with a NS or more competent speaker (MacKey & Abbuhl, 2005). Long and Porter (1985) proposed that interactions between NNSs through group work in the classroom also provides positive opportunities for language learning. Pedagogically speaking, group work in the classroom provides learners with more practice time, a natural communicative context, specialized instruction, a positive affective environment, and motivation for learning. Citing a wide range of research on language classroom learning, they found support for the claim that students have more opportunities to practice more, to produce language accurately, to make corrections, and to negotiate meaning through group work. They conclude that NNSs can present to each other the opportunity for authentic communicative practice (Long & Porter, 1985).

Susan Gass (1997) proposed a model of language acquisition that includes five parts: apperception, comprehended input, intake, integration, and output. New knowledge is combined with prior knowledge in a process called apperception, which helps the learner to notice new language and serves as a starting point for the entire process of acquisition. The next part of the model is comprehended input. She explained the difference between input that is understandable and input that is understood. The former puts emphasis on the control that the speaker has in social interaction, while the latter focuses on the mental processes of listener during such interaction. The notion of listener control, encompassed in a process referred to as intake, is that input is not just delivered one way, but also must be received, comprehended, and related in some way to the past experiences of the learner. It is at this point that new language can be
internalized. The next stage of acquisition is integration, a dynamic and interactive process in which intake can lead to new language development or, in some cases, be stored for later use. The process of acquisition is then demonstrated through learner output, when the learner produces the language, testing out a certain hypothesis and perhaps also receiving feedback (Gass, 1997).

In a review of literature on studies focusing on the role of social interaction and negotiation in second language learning Pica (1994) outlines theoretical approaches on the necessary conditions for second language acquisition. Some of these perspectives focus on the learner and others on the language learning conditions. First, learners must understand the meaning of messages if they are to internalize the language (Pica, 1994), and this includes the idea of comprehensible input (Krashen, 1985; Krashen, 1982) that has been expanded to include ways that modified interaction fosters comprehensible input (Long, 1981, 1996). As mentioned above, the way the learner modifies output when producing the language has also been determined to be an essential condition for language learning (Swain, 1993), and this can lead to learners paying particular attention to certain aspects of messages as they process relevant information (Long, 1990; Swain, 1985). These learner conditions overlap with language learning conditions, including comprehensible input, modified interaction, feedback and negative input, which can help language learners to develop language proficiency (Pica, 1994).

In research that came several years after she proposed the notion of comprehensible output, Swain (2000) embraced a more sociocultural perspective of the concept and speculated that the term “collaborative dialogue” might be a better way to frame the idea of output as a process of acquisition (Swain, 2000, p. 102). Such
terminology allowed for a clearer notion of how problems are solved and knowledge built through interaction with others in the form of dialogue that pushes the learner to explore the language that is produced (Swain, 2000). In the classroom, collaborative tasks, in which students work in pairs and focus on communicating content, with the end goal of producing a written text or oral presentation, can function to develop both content knowledge and language proficiency (Swain, 2001).

Van Lier (2000) proposed that an “ecological approach” (p. 245), which contextualizes language and the learner with the learning environment, could bring together a variety of established perspectives on second language acquisition. Vygotsky’s notion that language, learning, and cognition are dynamically and intricately connected encompass such an ecological approach. Van Lier suggested, for example, how the term input might more appropriately be referred to as affordance – that is some characteristic of the environment that relies on the actions, desires, or needs of an organism – as a way of acknowledging the dialogic and interdependent relationship between the learner and the learning environment (van Lier, 2000). Learning does not just happen inside the individual mind. Rather, cognitive processes are intricately linked to social processes, as what is external becomes internalized (Lantolf, 2005).

In content-area secondary school classrooms, the goal is for students to acquire knowledge in academic subject areas. In this context, where English is the medium of instruction, ESL students are challenged with not only acquiring the content knowledge but simultaneously acquiring academic English skills (Echevarría et al., 2008). While a content-area teacher might be well-trained to assist students in acquiring knowledge in the subject matter, they cannot meet the linguistic and academic needs of ESL students
without some idea of how language is acquired (De Jong & Harper, 2005; Dong, 2004; Short et al., 2012). Suggestions for strategies and techniques that enhance language learning in the content classroom are firmly based in the second language acquisition theories that have been presented (Short et al., 2012). Since comprehensible input, output and interaction have been found to enhance second language acquisition, teachers need to know ways to make content comprehensible, to give their students opportunities to speak and write in the classroom, and to provide opportunities for communicative exchange in the classroom. Second language acquisition theory offers a starting point for all discussions on effective teaching strategies and techniques for content-area teachers of ESL students.

**Understanding Academic Language**

The linguistic challenges that secondary students face in the classroom are related not only their level of proficiency but also with the type of language that is used in the academic setting. As presented in Chapter I, the theoretical framework outlined by Cummins (1984, 1992) explained some of these difficulties by defining distinctive categories of language proficiency: basic interpersonal communicative skills (BICS) and cognitive/academic language proficiency (CALP). This concept was later elaborated graphically in the form of a continuum, with the range of contextualization represented by the horizontal continuum, and the level of cognitive difficulty indicated by the vertical continuum. Everyday conversations among friends tends to be highly contextualized and less cognitively challenging, while the academic language found in subject textbooks and lectures is typically decontextualized and more cognitively challenging (Cummins, 1992, 2001). Cummins (1992) recognized the danger of oversimplifying reality by using a
dichotomy such as BICS and CALP, but the focus of the distinction was to create an awareness of student needs that were not being addressed in the classroom. Because academic language is academic language proficiency the language used in the classroom context, is essential to help the students grasp more abstract concepts, and then further analyze, synthesize or evaluate the material. Misguided assumptions regarding a student’s proficiency level that are made based on the student’s ability to engage in a social conversation could have negative consequences for the language learner (Cummins, 2000; Echevarría et al., 2008).

Studies have shown that it takes much longer for students to achieve CALP than it does to acquire basic conversational skills. Three decades ago, Collier (1987) conducted a wide-scale and often-cited study that addressed two main questions: 1) How many years of schooling is required for students to reach grade-level proficiency in academic subject areas? 2) To what extend does the age of the student upon arrival impact the degree of acquisition in both English and content-area proficiency? This was a cross-sectional study of 1,548 ELLs attending public school in the East Coast of the US from 1977-1986. The dependent variables were test scores in subject areas as determined by the Science Research Associates tests. Independent variables included age upon arrival, English proficiency upon arrival, math and first language literacy upon arrival, and the number of years of classroom English before coming to the US. All students involved in the study were enrolled in beginning level English courses when they arrived. It was found that it can take from two to as many as eight years for ELLs to reach grade-level proficiency in content-area subjects which require academic language skills. Significantly for this project, it was determined that 12-15 year olds faced the greatest
obstacles in achieving grade-level standards. The study concluded that it is particularly
important for older students to be exposed as soon as possible to grade-level academic
instruction in subject areas if they are to have any chance of academic success. In some
cases, the students may need to be exposed to the content area in their first language to
keep up with grade-level content knowledge. The important take from this study is that
achieving academic language proficiency is a time-consuming process without shortcuts
(Collier, 1987).

In a paper entitled, “How Long Does It Take English Learners to Attain
Proficiency?” Hakuta and others (2000) examined data from four different school
districts, two of them in the San Francisco Bay Area and two of them in Canada, to
address the question of length of time required for the development of academic English
proficiency. The San Francisco district studies were both involved elementary school
students, while both Canadian district studies looked at teens in the 7th through 9th grades.
While noting the complexities of determining academic language proficiency, a rough
division of English competency between oral language proficiency and academic English
proficiency was adopted by using standardized tests. The data analysis revealed that,
even in the California districts that are recognized as implementing successful programs
for ELLs, it takes about 3-5 years to acquire basic English skills and closer to 4 to 7 years
to achieve English academic competency. The Canadian school districts showed similar
results. Educational implications include the need for policymakers and educators to be
aware that acquiring academic English proficiency is a complicated process that cannot
be rushed. The data demonstrates that it is not possible for students to catch up to their
native speaking peers during the regular school day and that enrichment classes should be considered essential for furthering students’ English language skills (Hakuta et al., 2000).

More recent studies in the integration of content and language learning in the classroom begin with the now widely accepted notion that the biggest challenge for ESL students is the development of CALP (Bailey, Burkett, & Freeman, 2010; Channa & Soomro, 2015; DiCerbo, Anstrom, Baker, & Rivera, 2014; Tamara Lucas & Villegas, 2013; Lucas et al., 2008; Roessingh, 2008; Zwiers, 2008). As such, it is essential that content-area teachers are not only aware of the differences between conversational and academic language, but understand the instructor’s essential role in providing linguistic support for the development of CALP that is necessary for ESL student success in content-area subjects (Echevarria et al., 2011; Helfrich & Bosh, 2011; Samson & Collins, 2012). As CALP takes considerably more time to develop than BICS, the need for this support goes well beyond the point where students appear to be able to speak the language relatively fluently in daily conversations.

Learning Through Content-based Instruction

In a short book entitled Language and Content, Mohan (1986) called for an approach to curricular design that would combine subject matter and language learning so that academic language proficiency could be more attainable for students involved in classroom learning. The idea that language learning belongs to one classroom and content area learning belongs to another, he argued, is flawed and does not allow ESL students to reach their potential in academic success. Mohan recognized the content classroom as a context for communicative language learning, as language is used as the medium for the instruction of content that is authentic and meaningful to the academic
student. In the classroom, students not only receive formal instruction but are also engaged in the process of socialization and enculturation. Language can be used to learn, and consequently, students will learn language in an authentic context (Mohan, 1986).

The importance of integrating language learning with content learning form the basic premise of this project, and many ideas for the implementation of such integration can be found in the approach to curricular development that is known as content-based instruction, or CBI. CBI encompasses a wide range of models that integrate content and language learning, the earliest of which is considered to be the French immersion program in Canada (Valeo, 2013). CBI also has close ties to approaches with other labels, including content and language integrated learning (CLIL), sustained content language teacher (SCLT), English for specific purposes (ESP), and English for academic purposes (EAP), all of which share many of the same underlying principles that originate from concerns about isolating language learning from the contexts of authentic language use (Brinton et al., 2003; Short et al., 2012; Snow, 2005). In this section, CBI is defined, the rationales for integrating the teaching of content and language are explained, models for CBI are presented, and the constraints of integrating the instruction of content and language is discussed.

What is CBI?

CBI is an approach to curricular design that aims to develop proficiency in both subject area knowledge and language skills by integrating language learning with authentic and relevant content learning (Cammarata, 2009; Snow, 2005). As discussed in Chapter I, CBI fits within the larger framework of communicative language teaching (CLT), an approach in which the development of communicative competence and the
fostering of meaningful and authentic communication are the central focus, and social interaction is the defining characteristic (Savignon, 2005; Snow, 2005). In most definitions of CBI, the features that are deemed important include a content-guided curriculum that simultaneously presents language in a meaningful context, and language learning that is fostered by presenting this content in a way that learners can understand, or through comprehensible input (Brinton & Holten, 2001). In CBI, rather than the study of language being separated as a different subject, it is used as the medium for learning subject matter (Brinton et al., 2003). What is not agreed upon in the definitions of CBI, however, is whether the language learning should be taught explicitly, or should occur incidentally in the process of learning content (Brinton & Holten, 2001). This issue, of language versus content and form versus meaning, will be further addressed below, in the discussion on specific models of CBI and possible constraints to effective integration.

The Rationale for CBI

CBI as an approach to language instruction has gained universal appeal over the past few decades, and studies overviewing the features of the approach abound in second language teaching (Brinton & Holten, 2001; Brinton et al., 2003; Cammarata, 2009; Channa & Soomro, 2015; Fisher & Frey, 2010; Krueger & Ryan, 1993; Mohan, 1986; Mohan & Beckett, 2001; Snow, 2005). CBI is supported not only by theories of second language acquisition, but also by concepts in education and cognitive psychology (Cammarata, 2009). Such theories behind the content-based approach provide the rationales for integrating content with language learning. First, language learning can be most successful when the language presented aligns closely with the learner needs and accounts for the ways in which the language will most likely be used by the learner in the
future (Brinton et al., 2003). A second argument is that language learning is fostered by increased motivation when learners can negotiate meaning through authentic and relevant content (Channa & Soomro, 2015). This rationale is supported by the constructivist perspective that learning is enhanced when learners have opportunities to solve real-life problems and make connections between concepts that they are learning (Met, 2000).

Third, learning language through content can provide an opportunity for the learner to build on the prior knowledge and experience – in the subject matter, the target language, and the classroom setting – thus employing a well-accepted pedagogical principle of the importance of scaffolding (Brinton et al., 2003). In addition, contextualizing the language within content instruction, rather than teaching language at the sentence level as is often the case in traditional language learning, helps the learner to become familiar with authentic uses of language in academic contexts (Brinton et al., 2003). A fifth rationale is that learning subject matter is cognitively challenging for the learner, and develops CALP and critical thinking skills important for academic success (Channa & Soomro, 2015). Furthermore, integrating content and language learning can be an efficient use of time in that less of the school day would need to be devoted to learning language as a separate subject (Met, 2000). Finally, learning language through content meets several conditions for second language acquisition by advocating for the focus on both meaning (communication of content) and form (using accurate language), with opportunities for comprehensible input, output, and interaction (Brinton et al., 2003).

Models of Content and Language Instruction

Met (1999) presents a clear conceptualization of the wide spectrum of models that integrate content with language learning in the form of a continuum, which ranges from
content-driven models of instruction on one end to language-driven on the other. In content-driven instruction, such as immersion programs, the priority is on content learning and students are assessed by how well they understand the content. In language-driven instruction, content is used to teach language, but content learning is secondary to language learning, and students are evaluated on their language skills. Immersion or partial immersion programs, which deliver subject-area instruction through the target language, are examples of content-driven approaches. Theme-based language classes, in which the language instructor builds practice with language skills around selected themes for content learning, are more language driven. The adjunct model of instruction is placed in the middle of the continuum, since equal emphasis is placed on content and language learning (Met, 1999). In this model, the language course and the content course are interconnected, with both the content instructor and the language instructor sharing the responsibility for student learning (Brinton et al., 2003; Met, 1999). Sheltered content instruction, which emphasizes content learning while also aiming to address the language needs of the learners, also lies in the middle of the continuum but closer to the content-driven end of the scale (Met, 1999). Understanding where a certain model fits on the continuum can help educators make decisions regarding selecting content, establishing language objectives, preparing instructors, and assessing students (Met, 1999). The models which fall in the middle of Met’s continuum, the sheltered model and to a certain extent the adjunct model, are most closely aligned with the type of instruction this project seeks to support: subject-area instruction in the secondary classroom that addresses the linguistic and academic needs of ESL students.
In the sheltered model, instruction in a subject-area course, such as biology or history, is delivered by either an ESL-trained teacher or a content-area teacher using strategies or modifications that accommodate the linguistic and academic needs of English language learners. The premise is that, provided the conditions are suitable, content instruction and language instruction can happen simultaneously in the same classroom (Snow, 2005). Research in various versions of the sheltered model of instruction provide insights on the ideal learning conditions for the development of English language learners’ academic proficiency as well as the theoretical and practical challenges of integrating content and language instruction.

Research has demonstrated that, while many of the strategies and techniques that are recommended for effective instruction of ELLs can be considered as good pedagogical practices in any classroom, addressing the academic and linguistic needs of ELLs in the content-area classroom takes more than just being a good teacher (De Jong & Harper, 2005; Echevarría et al., 2008; Knoblock & Youngquist, 2016; Short et al., 2012). Whether the ESL students are in a sheltered classroom with only other ELLs or in a mainstream classroom mixed with native English speakers, what is essential is that teachers are aware of the linguistic needs of their students and are able and willing to adjust their teaching accordingly (De Jong & Harper, 2005).

The advantages and disadvantages for language learners in the mainstream classroom were considered in a longitudinal ethnographical study by Harlau (1994), in which she followed four Chinese students as they transitioned into the mainstream program in a California high school. She found that, while the mainstream classroom offered the benefit of ample exposure to input in an authentic communicative context,
shortcomings included inadequate interaction, lack of scaffolding and building on prior knowledge, and little explicit feedback. The content-trained teacher was unable to explain linguistic errors and rarely modified input to make it easier for the language learner to understand. Harklau (1994) called for approaches that integrate content and language learning and suggested several strategies that might better address language learner needs in the mainstream classroom. Being both cognizant and responsive to student needs, engaging students in collaborative dialogue, modifying input to be more comprehensible, organizing activities to promote classroom interaction, and including language objectives in lesson planning are some of the recommendations presented (Harklau, 1994).

Citing some of the same advantages and disadvantages of mainstream instruction that were noted by Harlau, Knoblock and Youngquist (2016) performed a study to demonstrate evidence that sheltered classrooms might provide more effective instruction for language learners. Students enrolled in a sheltered section of a college reading class showed greater improvement in reading skills compared with students in a mainstream section. Several benefits of the sheltered section were noted, including the fact that the course was taught by a TESOL trained instructor who was responsive to student challenges, input was modified, textbooks were chosen to meet the specific needs of the learners, specific academic vocabulary was highlighted, scaffolding and tapping background knowledge was underscored, and the learning environment allowed learners to feel safe and comfortable. The researchers emphasized that, in the sheltered classroom, concepts should not be watered down but modified in other ways to make
input more comprehensible and accessible to language learners (Knoblock & Youngquist, 2016).

A considerable number of studies on sheltered instruction use the Sheltered Instruction Observation Protocol (SIOP) model to evaluate the effectiveness of sheltered instruction based on very specific required features explained in the framework of the model (Echevarria et al., 2011; Echevarria et al., 2008; Short, 2013; Short, Echevarria, & Richards-Tutor, 2011). The SIOP Model was a 7-year project (1996-2003) conducted for the Center for Research on Education, Diversity and Excellence (CREDE) and funded by the U.S. Department of Education. The project supported 30 research studies in the US that involved using the SIOP model, which provides a framework for teaching content area classes using techniques and strategies that help make the content more comprehensible for ELLs. In the framework, 30 different features that are considered to enhance instruction are divided into 8 main categories, including lesson preparation, building background knowledge, comprehensible input, strategies, interaction, practice and application, lesson delivery, and review and assessment. Concrete examples of some of the features that can enhance learning for ELLs include using slower speech, adapting materials, focusing on targeted vocabulary development, scaffolding instruction, making connections to student experiences and prior knowledge, using supplementary materials, or encouraging student-to-student interaction (Echevarría et al., 2008). While some of these features are recommended for effective instruction for any student, others are specifically targeted to ELLs, such as building language objectives into every lesson plan. The items are compiled into a rubric that can then be used by trained evaluators in
determining the extent to which a teacher implements the essential features of effective sheltered instruction in their lessons (Echevarría et al., 2008; Short et al., 2012).

In an article entitled, “Making Content Comprehensible for Non-Native Speakers of English: The SIOP Model,” authors Echevarría, Short, and Powers (2008) report on one such study of the SIOP model. The research study 6th through 8th grade students from one west coast and two east coast public school districts. Teachers participated for one to two years in a professional development program during which they learned and practicing the SIOP Model of instruction. The comparison group was comprised of credentialed teachers with similar prior experience to the project teachers but did not participate in the SIOP training. Results revealed that sheltered instruction improved student achievement in content areas, and that academic achievement was greater in sheltered classrooms whose teachers received SIOP training compared to those who did not. The researchers concluded that providing teachers with a clear model for sheltered instruction enabled them to more effectively address the linguistic and academic needs of the ELLs in their classroom. By using the SIOP model, teachers are encouraged to target instruction just beyond the students’ level of English proficiency, and to engage students in meaningful content in ways that allow them to practice and develop reading, writing, listening, and speaking skills (Echevarría et al., 2008).

The impact of the SIOP Model was also investigated by Short, Fidelman, and Louguit (2012) in a two-year quasi-experimental study conducted in New Jersey with middle school and high school ELLs, and resulted in similar findings. The SIOP model calls for teachers to be aware of the role of language in learning, to give students opportunities for producing the language through interactions in the classroom, to
demonstrate for students how to express specific language functions, and to include writing tasks. The researchers concluded that the SIOP Model holds promise as an approach to professional development (Short et al., 2012).

**Teacher Preparation and Collaboration**

It has long been observed that integrating content and language in the classroom requires special skills and techniques (Snow, 2005). The literature on content-based instruction appealing for the need for preservice training, professional development, and collaboration are plentiful, with calls for new ways to prepare teachers to accommodate the needs of ESL students in the content classroom.

Preservice programs have been the object of study, as this is where the foundations of the knowledge and skills for becoming an effective advocate for the language needs of ELLs are laid (Lucas & Villegas, 2013). It has been found that preservice programs often lack coursework that is essential for preparing teachers to with ELLs, including developing an understanding of the difference between BICS and CALP (Lucas et al., 2008; Samson & Collins, 2012), the need to provide learners with comprehensible input and opportunities for output (Lucas et al., 2008), the impact of social interaction for developing oral academic language skills (Lucas et al., 2008; Samson & Collins, 2012), the benefits of a safe and welcoming classroom environment, the need to pay attention to language form (Lucas et al., 2008), the role of culture in the development of language proficiency and academic achievement, and the importance of embracing cultural differences in the classroom (Samson & Collins, 2012).

The call for professional development for content-area teachers of English language learners is a major and on-going focus of educational research, particularly
regarding K-12 education (Clair, 1995; Creese, 2010; De Jong & Harper, 2005; Dong, 2004; Echevarría et al., 2008; Fisher & Frey, 2010; Reeves, 2006; Short et al., 2012; Stephens & Johnson, 2015). The urgent need for teachers to become more adequately prepared to work in an increasingly multilingual and multicultural classroom has been articulated in current research (Stephens & Johnson, 2015) just as strongly as it was a decade ago (De Jong & Harper, 2005) and even decades ago (Clair, 1995). Research has been done, for example, on misconceptions and misunderstandings regarding the length of time it takes to acquire academic English or the use of the first language (Reeves, 2006), or misguided practices such as diluting content or excluding ELLs from discussions (Dong, 2004). Harper and de Jong (2005) outlined a framework for conceptualizing the gap between good teaching and good teaching for all students. This gap is created by a lack of knowledge and skills in three main areas: understanding the process of second language acquisition, being mindful of the ways that language and culture impact teaching and learning, and acknowledging the importance of language and culture as a learning objective. Closing this gap can generate effective teaching practice for all students, including ELLs. Furthermore, the attitude of the teacher can have a significant influence of the successful implementation of effective teaching practices (De Jong & Harper, 2005). A framework for sustained professional development for in-service teachers is also encompassed in the SIOP model described in detail above, which offer guidelines for institutions and programs for actualizing and maintaining professional development to improve in-service teacher performance and promote effective teaching practices for sheltered instruction (Short, 2013). Others believe that this model, while providing many examples of strategies and techniques, does not go far
enough in offering guidance to teachers on exactly how to articulate a language purpose in lesson planning (Fisher & Frey, 2010).

Related to professional development are studies that have considered frameworks, offered suggestions, and presented examples of effective content-area and ESL teacher collaboration. Some research has focused on establishing a framework for integrating language and content through teacher collaboration as a means of promoting proficiency in academic language for English language learners (Davison, 2006; Snow, Met, & Genesee, 1992). Other research has provided insights from actual collaborative efforts considered to have been successful and made suggestions based on lessons learned through the endeavor (DelliCarpini & Alonso, 2014; Kong, 2014). It was found that it takes tremendous effort on the part of both the ESL teachers and the content-area teachers to confront the challenges of CBI (Davison, 2006; Kong, 2014), mindset and effort make a difference (Davison, 2006), collaboration requires a very specific skill set (Arkoudis, 2006), ESL teachers tend to be more optimistic about collaborative teaching than content-area teachers (Davison, 2006) yet ESL teachers are sometimes marginalized (Creese, 2010), it is difficult to overcome the barriers of ingrained disciplinary biases and prejudices (Arkoudis, 2006; Harklau, 1994), and content tends to take the dominant role over language in the mainstream classroom (Creese, 2010; Kong, 2014). Kong points out that one of the biggest challenges of integrating language and content is in striking a balance between the two. While the complexities of integration require collaboration between both the content-area and ESL teacher, the decision on how to balance language and content might best be left to one teacher, most likely the content teacher (Kong, 2014).
In addition to the challenges mentioned above regarding effective teacher collaboration, researchers investigating various CBI models have indicated several constraints of integrating language and content. First, and it bears repeating, there is the formidable challenge of finding a balance between language learning and content learning, between focusing on content meaning or linguistic form and accuracy (Cammarata, 2009; Channa & Soomro, 2015; Kong, 2014). Second, there is often a gap between theories and frameworks and actual classroom practices (Arkoudis, 2006; Channa & Soomro, 2015). In addition, professional development and teacher collaboration take a tremendous amount of time, effort and resources, which are not always available (Arkoudis, 2006; Cammarata, 2009; Channa & Soomro, 2015). Despite these limitations, integrating language and instruction has been found to have tremendous benefits for the English language learner (Brinton et al., 2003; DelliCarpini & Alonso, 2013). It is therefore essential that content-area and ESL teachers continue to develop and reflect on teaching practices that will allow ESL students to become proficient in academic English while learning language through authentic and meaningful content.

**Cross-cultural Classroom Encounters: East Meets West**

Inseparable from language, culture is an extremely complex concept that crosses over multiple disciplinary boundaries (Adler, 1977). Anthropologist James Spradley concisely defines culture as “the acquired knowledge people use to interpret experience and generate behavior” (1980, p. 9). It can be thought of as a set of shared values, beliefs and norms that guide the behaviors of a group of people, a way of living, a way of making sense of the world (DeCapua & Wintergerst, 2004). Culture is neither static nor homogeneous, and any attempt to define cultural patterns leads to generalizations that
cannot possibly encompass an entire cultural group of people (Scarcella, 1992). A comprehensive analysis of the intricacies and subtleties of cultural patterns extend far beyond the scope of this project. The intention is to focus on the current project, and the topics covered are merely some of the more salient cross-cultural issues that might arise in the secondary school classroom in the US where Asian ESL students are present. Keeping these limitations in mind, the discussion moves to a brief presentation of culture shock and culture adaptation, a succinct overview of some of the more notable differences between Asian and American classrooms, and suggestions for accommodating the cultural background of international ESL students in classroom interactions.

**Culture Shock and Cultural Adaptation**

The study of culture and the consequences of cultural contact belongs to no specific discipline but has been studied from multiple perspectives, among them psychology, sociology, anthropology, and cross-cultural communication. International students are one of the most commonly studied groups, and, as they often come temporarily with plans to eventually return to their own country, are referred to as sojourners (Church, 1982).

Although others before him theorized on what was most likely the same concept, Oberg (1960) is considered to have coined the term *culture shock* (Church, 1982; Meintel, 1973), seeing it as the stress and anxiety that is brought on by being removed from familiar, and culturally-determined, cues for behaving and interacting with others. Oberg (1960) described four stages of culture shock that reflect the process of the sojourner’s changing attitudes towards the host country. First, the honeymoon stage,
which could last from days to several months, is marked by excitement and positive feelings towards the host country. The next stage is characterized with more negative and hostile feelings towards the host country, when the sojourner is in a period of adjustment and might be having difficulties or feel frustrated about having to deal with unfamiliar cues. The third stage reflects recovery from earlier frustrations, as the sojourner becomes more knowledgeable about the host culture. Finally, the fourth and final stage indicates adjustment and acceptance of the host culture (Oberg, 1960). Cultural adaptation has also been explained as a U-curve, which depicts the initial high, then a low point in adjustment, followed by recovery (Church, 1982). The U-curve was expanded to a W-curve by Gullahorn & Gallahorn (1963) to illustrate the process of acculturation and the potential sources of confusion and frustration during the acculturation process caused by the lack of familiar cues that was followed by a reacculturation process after the sojourners returned to their own country, similar to that which they went through while abroad, and is considered to be one of the earlier studies on cultural reentry (Gullahorn & Gullahorn, 1963). Meintel (1973) suggested that the generally accepted conceptualization of culture shock, which attributed stresses associated with entering a foreign culture to the state of maladjustment and the cure to the state of adaptation, failed to encompass the entire experience of entering a foreign culture. She proposed as an alternative approach that the shock of entering a foreign culture is more accurately depicted as the experience of questioning oneself, others, and one’s own society. Meintel also suggested the similarities between the experience of the stranger in a foreign land and everyday life, in that new realizations and questions about one’s own social environment can be everyday occurrences. Furthermore, because the
experience of the stranger in a foreign land hold possibilities valuable for person and 
intellectual growth, the tendency to consider the experience as something to overcome 
(i.e. “recover” from culture shock) ignores significant aspects of the experience (Meintel, 
1973). Similar ideas are reflected in the more current research presented below. Adler 
(1977) explained cultural adaptation from a psychocultural framework, describing five-
stage process of becoming more culturally and self-aware: an exciting contact phrase 
when everything is new, a confusing disintegration phase when differences begin to 
stand out, a reintegration stage marked by a rejection of the host culture, a stage of 
autonomy when the host culture is gradually understood, and finally an independent 
phase characterized by appreciation and acceptance of cultural differences. Adler noted 
that not everyone goes through every stage, as individual differences and prior 
experiences influence the process (Adler, 1975). Culture shock was thought to be a 
normal course for adaptation to a new culture, accompanied by such symptoms as 
frustration, anxiety, feelings of helplessness, or annoyance, and a desire for the familiar 
in the beginning of the adjustment, and eventual resolution through adjustment and 
acceptance of cultural differences (Adler, 1977; Gullahorn & Gullahorn, 1963; Oberg, 
1960).

By the 1980’s, different perspectives emerged that viewed culture shock more 
positively, as a cultural learning process rather than an illness that required a cure (Adler, 
1979; Bochner, Lin, & McLeod, 1980). Cultural learning can take place when an 
individual is confronted with cultural differences, and in turn becomes more self-aware as 
well as culturally aware and open to different perspectives (Adler, 1979). Rather than 
using the term culture shock, which was believed to limit investigation into the more
positive consequences of cultural contact, the preference was for terms such as
adaptation and adjustment (Ward & Kennedy, 1993). The idea of cultural learning has
continued to influence more current multidisciplinary research (Ward, Bochner, &
Furnham, 2001; Zhou, Jindal-Snape, Topping, & Todman, 2008).

Contemporary perspectives on cross-cultural interaction and adjustment have
been succinctly summarized by Ward, Bochner and Furnham (2001) into three
cultural approaches that complement each other - affective, behavioral, and cognitive
and dubbed the ABC model of acculturation. Studies that emphasize the stress that can
result from coping with and adjusting to a new culture fall into the affective approaches,
in which cross-cultural encounters are explained in a similar way to other life experiences
that can cause stress. Here the focus is on acculturation strategies and coping with stress.
Behavioral approaches include theories of cultural learning. When sojourners, such as
international students, cross cultures, they are without the social and behavioral skills that
people in the host culture take for granted, and interactions can result in
misunderstandings. Cultural skills, however, can be learned, and cultural learning leads
to beneficial cross-cultural interactions. Cognitive approaches, also referred to as social
identification theories, integrate well with the other approaches, and the concern is with
perceptions of self and others. Issues such as stereotyping, discrimination, and cultural
identity are embodied within this category of research (Ward et al., 2001). Rather than
merely describing the psychological symptoms of cross-cultural contact, as many of the
earlier theories did, contemporary perspectives demonstrate opportunities for cultural
learning and teaching. The difficulties encountered in cross-cultural interactions can be
mitigated with interventions that develop cultural awareness or build skills for cultural interaction (Zhou et al., 2008).

Consequently, there are pedagogical implications of the ABC perspectives of cross-cultural interaction and adjustment that go beyond descriptions or predictions (Zhou et al., 2008). In the classroom, students and teachers can become more aware of how their own culture influences their expectations, attitudes and behavior. Students can learn new ways of thinking and learning. Teachers, in turn, can learn to appreciate and respect the different cultural perspectives that students bring into the classroom.

**Issues in Cultural Adaptation for Adolescents**

Research in cross-cultural interaction discloses the intricacies of the process of adapting to a new culture. For adolescents, who are still in the process of negotiating their own identities and often sojourn without their families, the cross-cultural experience can be particularly challenging (Popadiuk, 2010). The two studies presented here perceive the cultural adaptation process as an opportunity for cultural learning and demonstrate the unique struggles and rewards that adolescent sojourners encounter.

In an ethnographic study that sought to bring student voices into the research on intercultural interaction, Kanno and Applebaum (1995) interviewed three Japanese ESL students in a high school in Canada, and their findings offer insights into the experience of negotiating identities through cross-cultural interactions. They argued that, in addition to English acquisition, personal and educational growth through social interaction were also important issues. Beginning their cross-cultural experience as adolescents, the students came with previous experience and identities that influenced their learning in the new environment. With established literacy skills, the students were ready for the
challenge of learning subject matter, and wanted to advance beyond the safe domain of the ESL classroom. Teachers had an important role of encouraging the students toward interaction with native-speaking peers. By integrating with the school community, students could develop not only their English skills but cultural interaction skills as well (Kanno & Applebaum, 1995).

Popadiuk (2010) also listened to student voices through extensive semi-structured interviews to understand the social and psychological factors that both ease and frustrate the adjustment of Asian international high school students in Canada. As unaccompanied adolescents, these students faced unique challenges both in and out of the classroom as they negotiated transitions between adolescence and adulthood, between their home culture and the new culture, between their first language and English. They shared their experiences of homesickness, frustrations in communicating in English, and perceptions of discrimination (Popadiuk, 2010). A second article related to the same research project focused on the academic experience (Popadiuk & Marshall, 2011). In school, there were both positive and negative experiences that influenced student adjustment. Regarding learning English, progress was facilitated by students’ own efforts to improve, but some of the them expressed frustration from being segregated into the ESL program or not using English enough outside of class. With respect to effective communication, being understood and appreciated even when they were unable to follow along in class helped their transition. In contrast, embarrassing or confusing classroom experiences hindered their transition. Speaking their native language with friends from their own country gave them a sense of belonging, but doing so impeded their progress in English and adjustment to a new culture. Constructive feedback from teachers and assistance with understanding
problems with school work were appreciated as this helped them to perform well academically. However, poor grades and papers covered with red ink were disappointing. The researchers call for an awareness of the intricacies of the adjustment process as it impacts and is impacted by language. They conclude with educational implications, including areas of consideration for classroom interactions, and offer suggestions for teachers such as offering encouragement and constructive feedback, modifying vocabulary and rate of speech for greater comprehensibility, allowing first language use and facilitating translation of difficult concepts, providing individual attention and being a good listener. When students are facing difficulties in any area of adjustment, they can be reminded that they are not alone in the process. Being a teenager is difficult, learning a new language is not easy, studying high school academics is hard work, adjusting to a new environment is challenging – and they are doing all of this (Popadiuk & Marshall, 2011).

**Cultural Challenges for Asian Students in the American Classroom**

Inside the classroom, the emphasis is on making sure the students are making progress, both linguistically and academically. While language has been cited as being the most significant source of challenge in the classroom, adapting to a different educational environment entails more than learning the language (Liu, 2016; Ward et al., 2001). Literature in intercultural education has illustrated that cultural differences in educational contexts can lead to a mismatch in teacher and student expectations that can exacerbate academic struggles (Liu, 2016; McCargar, 1993; Sato & Hodge, 2015b; Ward et al., 2001). Several examples of empirical literature on the intercultural educational experiences of Asian students in North America highlights such cultural disparities:
McCargar’s (1993) qualitatively analyzed surveys of college ESL program students and teachers; Shaw’s (Shaw & others, 1994) qualitative study of Asian international students attending high school in Boston that captured voices of students through interviews; Ward, Bochner, and Furnham’s (2001) review of literature in intercultural education; Huang and Brown’s (2009) review paper on the cultural factors of academic learning of Chinese ESL students in North America; Sato and Hodge’s (2015a, 2015b) descriptive, qualitative student depicting the voices of Japanese exchange students at an American university; and Liu’s (2016) qualitative study of Chinese students in an American university. Results are compiled into one analysis to present the cultural experiences and challenges in academic transitions for Asian international students in the American classroom, followed by implications for teachers of multicultural classrooms.

Different practices, expectations, and interactions in the classroom reflect cultural variance. Dimensions of cultural differences that particularly relate to communication in the classroom include individualism vs. collectivism and power distance (Sato & Hodge, 2015a; Ward et al., 2001). Students from individualistic cultures, such as American culture, like to stand out, to debate, and to ask and answer questions. In contrast, students from collectivist cultures, like Asian culture, prefer to fit in and remain inconspicuous in the classroom (Ward et al., 2001). Power distance pertains to the degree to which inequality in relationships is accepted by those who are less powerful (Brown, 2007). There would be more formality and respect towards teachers by students in a high power distance culture such as Asian culture (Ward et al., 2001). Asian students have expressed frustration with the unfamiliar interaction-oriented American classroom, with the focus on class participation, discussions, and group work (Liu, 2016; Sato & Hodge, 2015b).
In many Asian cultures, students are expected to sit quietly and listen to the teacher lecture, interruptions are considered disrespectful, and group work is uncommon (Huang & Brown, 2009; Liu, 2016; McCargar, 1993; Shaw & others, 1994). Asian students were accustomed to lecture-style lessons that followed the textbook with clear notes written on the board that students copied into their notebook (Huang & Brown, 2009; Liu, 2016; Shaw & others, 1994). Students expressed uneasiness with being assertive, and with answering questions quickly, not only due to linguistic difficulties and fears of making mistakes, but also discomfort with speaking out loud (Sato & Hodge, 2015b; Shaw & others, 1994). Another common thread was students’ criticism of the casual relationship between teachers and students in the American classroom, which they perceived to demonstrate a lack of respect for teachers (Huang & Brown, 2009; Liu, 2016; McCargar, 1993; Sato & Hodge, 2015b; Shaw & others, 1994). In many Asian classrooms, teachers are the transmitters of knowledge, and students are the receptors of this knowledge, expected to memorize and master the material without question or discussion (McCargar, 1993). In the American classroom, greater emphasis is placed on understanding and thinking critically about information presented, and students from Asian cultures may take time getting used to this different style of learning (McCargar, 1993; Sato & Hodge, 2015b; Shaw & others, 1994).

**Culturally Accommodating Classroom Interactions**

It is imperative that teachers not only address the language needs of their multilingual students but also that they understand how to offer responsive cultural feedback in a multicultural classroom. While ultimately it is the student’s responsibility to make the adjustments necessary to succeed in the American classroom (Ward et al.,
2001), teachers can play an important role in easing the transition (Huang & Brown, 2009; Popadiuk & Marshall, 2011; Shaw & others, 1994).

Several suggestions on ways to foster learning in the classroom were elicited from conversations with students in the studies above and provide several points of consideration along with other recommendations for culturally sensitive classroom feedback. First, encourage students to participate in discussions. While they are used to being quiet in the classroom, having opportunities to speak up gives them practice learning this skill (Huang & Brown, 2009; Shaw & others, 1994). Second, be willing to wait for students to respond to questions (Shaw & others, 1994). American classrooms tend to be fast-paced, and students may need more time to formulate their answers and work up the courage to speak aloud (Scarcella, 1992). Third, understand their hesitation to challenge ideas, particularly those that come from the teacher. Students might have an opinion but be unwilling to share it for fear of being disrespectful (Sato & Hodge, 2015b; Scarcella, 1992; Shaw & others, 1994). Teachers should also be aware that Asian students may feel more awkward than their American counterparts when they answer a question incorrectly, particularly in front of their classmates (Scarcella, 1992). Fourth, pay attention to them in the classroom, and find ways to make sure that they understand requirements for the class as they may not feel comfortable asking for help (Huang & Brown, 2009; Scarcella, 1992; Shaw & others, 1994). Behaviors that indicate paying attention, showing interest, and acknowledging understanding vary from culture to culture. Asian students, for example, may smile and nod politely even when they do not understand what is being said (Scarcella, 1992). Students may be hesitant to ask for help and not want to bother the teacher, but they find it useful to have study guides, notes
written on the board, or other handouts with background information so they can more effectively grasp the material (Huang & Brown, 2009; Shaw & others, 1994). In addition, complimenting and criticizing can be interpreted differently. While Americans tend to compliment freely, Asian students may feel uncomfortable accepting praise or may consider too much praise can to be insincere. They may have trouble accepting compliments and may even feel shame, as humility is a well-respected virtue in Asian culture (Scarcella, 1992). Finally, know some basic facts about their country and their culture, and show appreciation for their cultural background. Be aware that comments that come from ignorance about their cultural background may be perceived as discrimination (Shaw & others, 1994).

As mentioned above, the concept of culture is complex and any attempt at an analysis of cultural differences must come with the caveat that generalizations enter dangerous territory (Scarcella, 1992). Nonetheless, the voices of the students presented here provide valuable insights into the linguistic and cultural challenges that Asian ESL student face in the classroom. Educators who are aware of these cross-cultural challenges are better equipped to help their students through a successful cross-cultural experience.

Summary

The review of literature above demonstrates the formidable linguistic, academic, and cultural challenges that Asian ESL international students encounter in the American secondary school classroom, and the equally daunting task that secondary educators have in understanding and addressing these needs. Theories and research that cross disciplinary borders – on second language acquisition theory, academic language, content-based instruction, and cross-cultural interaction – were outlined to provide a
foundations in the knowledge and skills that educators need to effectively approach these challenges.

First, an overview of some of the central theories of second language acquisition that relate to learning language in the classroom was put forward to suggest ways that the classroom environment has the potential to foster the very complex process of language acquisition for ESL students. Although there is disagreement regarding the degree of its importance over other causal factors, comprehensible input that is just above the acquirer’s current level is considered to be essential for language acquisition (Krashen, 1982), and it is therefore the responsibility of effective teachers to make efforts to modify linguistic input (Knoblock & Youngquist, 2016). There is also evidence that a parallel concept, comprehensible output, fosters the development of language competence by allowing learners to practice, test, and notice established as well as new language patterns, offering evidence for the importance of output tasks such as speaking and writing (Swain, 1993). Studies that have been framed around the notion that knowledge is constructed in social contexts focus on the social interactions that occur in the classroom environment and consider how such interactions can foster language acquisition (Gass, 2003; Long, 1996; Pica, 1994; Swain, 2000; van Lier, 2000; Vygotsky, 1978). The importance of the zone of proximal development and scaffolding (Vygotsky, 1978), the role of discourse and interactions, interactional modifications, and feedback, and the processes of negotiation of meaning (Gass, 1997; Hatch, 1978; Long, 1996; Pica, 1994; Swain, 2000) all fit within the social constructivist theoretical framework that places the learner in the center of the social environment, linking cognitive processes to social processes (Lantolf, 2005; van Lier, 2000). These perspectives on second language
acquisition provide support for the development of teaching strategies and techniques that should be in the tool box of every educator of ESL students.

Another important aspect that was examined are the linguistic challenges ESL secondary students face in the academic contexts that stem from the type of language that is used in the classroom environment. The dichotomy of BICS and CALP – the language used in everyday conversations and that used in academic settings such as the classroom – clarified by Cummins (1984, 2000) presents a theoretical framework for understanding the linguistic and academic hurdles that ESL students need to overcome to learn successfully. Furthermore, as supported by the literature, acquiring academic English takes time and the process cannot be rushed (Collier, 1987; Hakuta et al., 2000). Given this evidence, it is important for educators to understand that students require linguistic assistance long after they seem to have acquired conversational skills (Echevarría et al., 2008; Samson & Collins, 2012).

Next, it was demonstrated through the literature that content-based instruction, the approach to curricular design that integrates language and content instruction, is a valuable way of promoting the acquisition of academic English through authentic and meaningful study of content (Brinton et al., 2003). Rationales for CBI were outlined to include aligning with academic English learner needs, increasing motivation through authentic and relevant content, providing opportunities for scaffolding, contextualizing language, developing CALP, saving time, and advocating for the conditions of learning supported by theories of second language acquisition (Brinton et al., 2003; Channa & Soomro, 2015; Met, 2000). The spectrum of models that integrate content and language can be conceptualized through Met’s (1999) continuum, ranging from models that are
more content-driven to those that are more language-driven, and a program's placement within this framework can aid educators in decision-making. The advantages and disadvantages for language learners in the mainstream classroom were compared with those for ESL and sheltered instruction, and highlighted the complexities of integrating content and language learning and teaching (Harklau, 1994; Knoblock & Youngquist, 2016). Several studies have examined the effectiveness of the SIOP model, which provides a framework with clear guidelines for effective sheltered instruction in content-area classrooms, and holds promise as a valuable approach to professional development (Echevarría et al., 2008; Short et al., 2012). Content-area teacher and ESL collaboration, the constraints of such efforts notwithstanding, has been found to benefit learning for ESL students in content-area classes, and ongoing research on frameworks and reports of successful collaborative efforts aids teachers in developing similar practices (Davison, 2006; Kong, 2014).

Finally, issues that could potentially arise from the cross-cultural interactions in the American secondary school classrooms where Asian ESL students have come to study were analyzed, with a word of caution of the inherent pitfalls of any attempt to present such a complex concept as culture. Literature addressing culture shock and cultural adaptation was reviewed, with a focus on considering how theoretical perspectives on the nature of culture shock has changed from descriptions and predictions of psychological symptoms (Gullahorn & Gullahorn, 1963; Oberg, 1960) to more current approaches that consider cross-cultural interaction to have the valuable potential for cultural learning and self-discovery (Ward et al., 2001; Zhou et al., 2008). Qualitative and quantitative studies on the experiences of Asian high school and college students
were compiled to demonstrate the cultural challenges that Asian students face in the American classroom. The literature review then closed with suggestions for teachers on how to provide responsive cultural feedback in a multicultural classroom.

The literature reviewed is expansive and covers a wide range of themes from various research domains, demonstrating the fact that a myriad of intricate and interrelated factors come to play in the multilingual, multicultural classroom. From the theories of second language acquisition and academic language, to models of content-based instruction and frameworks for teacher collaboration, to perspectives on cross-cultural transitions and interactions, the literature review presented provides insights for effective teaching practices for the benefit of all students.
CHAPTER III
THE PROJECT AND ITS DEVELOPMENT

Description of the Project

The final project is presented in the form of a website that, while specifically designed with the content-area teacher in mind, can also be useful to ESL teachers and high school administrators. The project’s purpose is to provide secondary content-area teachers of ESL students with information, tools, and resources that enable them to more effectively meet the academic, linguistic, and cultural needs of their English language learners.

While not yet a published website, the project is set up as a fully-interactive document that mimics a website entitled “ESL-Content Connections,” and is divided into seven sections. The Home section welcomes educators to the website and gives an overview of the purpose of the website. The challenge for secondary school educators of ESL students is presented in this section as well. While the website is primarily designed for private secondary school educators of international ESL students, the website’s importance for content-area teachers, ESL teachers, high school administrators, and students is explained here. The About section includes information about the creation of the website and my hopes for the site to become a place where a community of educators of ESL students can come together to share ideas. I also provide information about myself and my background in language learning and teaching. Clicking on the Language Learning tab brings up several research-based topics to give theoretical background for the more practical suggestions presented in other parts of the website. Topics include debunking myths, understanding academic language, second language acquisition research and educational implications, and an explanation content-based instruction and
the rationale for this approach. *Teaching Tips* includes more practical information, such as classroom tips and strategies for teaching ESL students in the content-area classroom, implementing language objectives for content-area instruction, and tips for creating a culturally responsive classroom. In the *Video* section, teachers can find links to presentations on topics such as culture shock and cultural adaptation, and comparing the Asian and American classroom. The information presented provides teachers with a better understanding of the cultural issues that ESL students face in cross-cultural interactions in the classroom, enabling teachers to become more responsive to student acculturation needs. Educators can find links to suggested websites in the *Resources* section. Each link includes information about the website and highlights aspects of each website that secondary educators of ESL students might find particularly useful. The last tab is *Contact*, which, on the website, will allow website users to contact me with comments, suggestions, and ideas.

**Development of the Project**

The plan for the project began in conversations I have had with co-workers and students at the small private high school where I have been working as ESL teacher and International Student Advisor for the past several years. As the number of Asian ESL students has continued to increase, content-area teachers voice their classroom frustrations, such as feeling unprepared to address the language challenges of their ESL students or feeling unsure whether the issue is the students’ deficiencies in English or lack of effort that seemingly keep them from grasping the content. Students express their own struggles, such as their inability to keep up with the pace of classroom discussions, their difficulties with understanding academic terms, or their lack of vocabulary when
trying to express their thoughts when writing in English. I gathered evidence of classroom challenges from the perspectives of students and teachers through these types of conversations, as well as through more systematic means such as written surveys. In this way, I unearthed some the more salient issues and opportunities for multilingual and multicultural classroom teaching and learning. I used these ideas for the basis of further research and planning for the project. In the research phase of the project, I investigated specific areas of concern that emerged in the dialogues with teachers and students and in research that presented the challenges for ESL students and teachers in the content-area classroom. I delved into topics of research including second language acquisition theory, academic language, content-based instruction, cross-cultural adjustment, and comparative education. I then integrated practical solutions for addressing the linguistic and cultural needs of Asian ESL students with sound theoretical research in second language learning, presenting these ideas in the easily accessible form of a website.

**The Project**

The project in its entirety can be found in the appendix.
CHAPTER IV
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

As the number of international ESL students pursuing an education in private secondary schools in the US continues to increase, there is an urgent need for content-area educators to recognize and respond to their role as language teacher and cultural informant for these students. The complicated process of learning a language and adjusting to a new culture is a challenge for these young students, and addressing their academic, linguistic, and cultural needs is a challenge for educators. Since students spend most of their time in content-area classrooms, this is one place where language learning cannot be put aside and considered as the responsibility of someone else. Teachers in private schools come from a variety of backgrounds, with varying degrees of experience in the classroom. Many teachers lack knowledge, experience, or confidence in addressing the academic, linguistic, and cultural needs of their students. While there is a wealth of information on tips and strategies for teaching ELLs in the form of books, articles, online information, and professional development programs, much of this information covers too broad a population of students to be immediately useful to private secondary school teachers of international ESL students. Finding the time or resources to engage in long-term professional development program is often a challenge for teachers. Furthermore, it can be an arduous task to sift through what might be or might not be helpful information, particularly without any background or knowledge in second language acquisition. As supported by second language acquisition theory, with the right training and preparation for effective teaching practices, the content area
classroom offers the ideal opportunity for academic language learning in a context that is authentic, meaningful, and motivating for international ESL students.

This project attempts to make information that is available much more accessible and immediately useful to the content-area teacher with little or no training in working with English language learners. It was developed particularly for content-area teachers in order to provide them with an opportunity for professional development in the form of practical and theoretically sound suggestions for linguistically- and culturally-sensitive strategies for effective teaching in multilingual and multicultural classrooms. When teachers make use of the website, they can learn about topics such as how to make their lessons more comprehensible, why students have trouble grasping complex ideas, how to both engage and challenge English language learners, why it is important to have language objectives in every lesson, and how to create a culturally responsive environment in their classrooms. In short, they can learn how to be a good teacher for every student in their classroom. The resource additionally provides ESL teachers, who are often assigned responsibility for taking care of the needs of ELLs, with easily accessible information they can use to develop a customized professional development program for teachers at their own schools. The information can also be helpful for administrators, who can encourage content-area and ESL teachers to work closely together in order to help ESL students learn both content knowledge and academic language so that they can be successful in the American classroom. As educators, we should listen to the voices of our students and consider ways that we can work together so that our classrooms generate mutual understanding and good will among students from around the world.
Recommendations

The primary expectation for this project is that it be considered as a reliable and valuable source of information for the professional development of content-area secondary school teachers of international ESL students. The recommendation for educators is that this website be considered as one of many sources of information promoting effective teaching practices for teachers of ESL students. The website provides an overview, highlighting some of the more salient issues for multilingual and multicultural secondary classrooms. I encourage users of the sight to delve deeper into individual areas of concern. I also encourage teachers to continually engage in conversation and collaboration with other educators of ESL students. Learning new techniques and strategies, trying them out in the classroom, reflecting on the effectiveness of these techniques through both self-reflection and collaborative reflection, and adjusting our techniques to continually improve our teaching practices is an essential process for becoming great educators. Most significantly, it is essential that teachers get to know their students, never lose sight of needs as both a group and as individuals, and make every effort to meet those needs.

If time and circumstances allow, I hope to expand the website, particularly in the areas of videos, teaching tips, and teacher collaboration. Becoming more familiar with videoing techniques would allow for higher quality presentation of a wider range of topics in this medium. The teaching tips section could be expanded to include more extensive information on creating language objectives in the content classroom, likely an area of need for content-area teachers. Tips in the form of a blog could also be added to highlight the most updated information in the fields of cross-cultural education and
second language acquisition. Opportunities for teacher collaboration could happen in several ways through the website. One idea is to add a comments section, where teachers can post questions or answer questions about teaching ESL students. A space for posting and sharing lesson plans and ideas that teachers have found to work well in their classroom could also be included. I envision this project to be an ongoing endeavor that will not end with the submission of this final field project but rather will begin at this point and become an active resource that, once published, is continually revised and improved to fit the ever-changing needs of second language educators and students.
REFERENCES


APPENDIX
ESL-Content Connections is a website designed for content-area teachers of international Asian ESL students. An overview of language learning theory and classroom implications, teaching tips and strategies, videos and other resources are at your fingertips.

Joy Suzuki
University of San Francisco
Spring 2017
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Welcome to ESL-Content Connections, a website designed especially for private secondary school educators of international ESL students. From second language acquisition theory and implications for the content-area classroom to practical tips and suggestions for teaching international ESL students, information to help you guide your ESL students through a rewarding and successful cross-cultural experience in American classroom is at your fingertips.

A Challenge for Secondary School Educators

The U.S. has been, and continues to be, a popular destination for international students at the post-secondary level. A more recent trend has been the increase in the number of international students coming to the U.S. at the secondary school level. Students embark on a cross-cultural journey for many reasons, many of them coming with hopes of graduating from an American high school so that they can gain a competitive edge in the college admissions process. American high schools have their own reasons, both ideological and pragmatic, for opening their doors to welcome these students. Cross-cultural exchange in any form has the great potential to develop international understanding, as people from different cultures who speak different languages meet in the classroom to learn together. Lofty goals aside, however, the cross-cultural experience can be a challenging one, particularly for secondary students who come to private schools or boarding schools, many of them without their families. As educators in the classrooms where these students will be learning, we have the responsibility to understand difficulties they will likely encounter – linguistic, academic, and cultural – and to be sure that we are able to meet their unique needs.

Resources:
So why this website?

1) **For content-area teachers:** You’re a science, math, social studies, or maybe an English literature teacher. You may feel that language teaching is outside your field of expertise. But in fact, all teachers are language teachers. English is the language you are using for instruction, and your classroom therefore offers tremendous opportunity for ESL students to learn language. As you explain concepts, guide students through a reading, or lead class discussions in your area of content expertise, your students have the chance to not only gain knowledge about the subject area but also to negotiate meaning through language. You might not have time for a long-term professional development program, but there are a few tips and strategies you can bring into your classroom that can immediately benefit your ESL students. The hope is that resources on this website can help you gain an appreciation for your role as not only a content teacher but also language mentors of your ESL students. Furthermore, where is there language learning, there is also cultural learning. You are encouraged to consider not only how your own words and actions are determined by cultural-specific worldviews but also how your students’ classroom behavior and attitudes reflect different perspectives.

2) **For ESL teachers:** As language specialists, you are an invaluable resource of information regarding language and cultural learning and teaching. This site offers access to ready-made resources to facilitate your efforts to collaborate with content-area teachers at your schools. You may use these online resources as a starting point, individualize them, and present the materials and ideas as best fits your own situation.

3) **For high school administrators:** Professional development and effective collaboration between content-area teachers and ESL teachers begins with the administrators, so this site may be helpful to you as well. As you have the overall success of your institution to consider, you need to be aware of what is and is not working in the classrooms, to be informed well enough to make suggestions for improvements, and to provide the staff with the wherewithal to carry out these recommendations. In accepting
international ESL students, you have the responsibility to make sure that your schools are providing the opportunity for their academic success.

4) **For students:** While the expectation is not that students will use this website directly, they are the heart and soul of this project. The voices of Asian ESL students and the issues they encounter in the classroom are the starting point for this website. Hearing these voices, educators are encouraged to consider ways to better serve the needs of ESL students. Helping ESL students succeed in the classroom can benefit the native speakers that share those classrooms as well, as the classrooms can more effectively become the center for opportunities for building intercultural understanding and trust among students from around the world.

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About the Website

This website was originally created as a master’s field project in Teaching English to Students of Other Languages (TESOL) at the University of San Francisco. (Link to the project in its entirety here.)

My hope is that it will grow into a site where secondary school educators of ESL students can come together as a community of professionals to share their experiences and ideas for the classroom. I sincerely believe that the desire to reflect and learn is at the heart of good teaching. There is so much that all of us can learn from each other, and my desire is for this site to provide the opportunity to do just that.

About the Author

I’m Joy Suzuki, and a lifelong language learner and teacher. I earned my B.A. in French, studied Spanish in college as well, lived and taught English at a high school in Japan for 2 years where I began learning Japanese and haven’t stopped since, earned a certificate in language studies for Japanese from the Monterey Institute of International Studies (now the Middlebury Institute of International Studies at Monterey), worked for several years in the field of international education in various capacities, volunteered for many years in multi-cultural/multi-lingual classrooms, have been teaching high school ESL for the past 4 years, and earned a master’s degree in Teaching English to Students of other languages (TESOL) from the University of San Francisco. I look forward to getting to know other educators through this website, and to learning more together!
Debunking Myths

Some of the most common misconceptions and myths about the way language is learned can lead to misguided teaching practices or misinterpretations of student behaviors. What are some of these myths? And what are the facts about language acquisition?

**Myth #1: ESL Students cannot learn content taught in English until they have mastered the language.**

In fact, ESL students can learn content before they have mastered the language in which the content is taught. ESL students who are beginning studies in the US at high school age have already established both literacy skills and the ability for higher-order thinking from schooling in their own country. They are quite capable of thinking about and working with difficult concepts. The key is to find ways to make the content comprehensible for students using a variety of techniques and strategies – such as speaking slowly and clearly; using visuals, graphic organizers, videos and demonstrations; engaging students in hands-on learning; communicating through gestures and other non-verbal means of communication; allowing students to translate; or modeling specifically what you want students to do. It is also important for teachers to explicitly teach language while teaching content, so that students can better understand the content and express their knowledge and ideas in English.

**Myth #2: Once ESL students can speak English fluently, they can succeed academically in the content-area classroom.**

In fact, ESL students who may be able to speak the language fluently in social contexts have not necessarily fully developed the language skills required for rigorous academic study in content-area studies such as biology or history. While students can learn content when teachers use
effective teaching strategies for language learners, they continue to need many more years of linguistic support while they are working on academic language proficiency. A more detailed discussion of the distinction between social and academic language can be found in the section entitled “Understanding Academic Language.”

Myth #3: Exposing ESL students to more English will accelerate language acquisition.

In fact, the process of learning the more abstract and cognitively challenging language of the classroom takes time, and merely exposing the students to more English doesn’t lead to quicker success. The development of academic language proficiency can take 5-7 years, and this time frame is related to the amount of exposure a student has had in academic learning in their first language. The way to foster academic language development is not just to expose students to more language but to effectively expose them to authentic language that they need to participate fully in classroom learning, including instruction that focuses on developing content knowledge along with language skills.

Myth #4: Teachers need to “water down” lessons for ESL students to understand content knowledge.

In fact, it is not necessary to reduce your expectations for ESL students in the content-area classroom. Meaningful and authentic content learning has been shown to foster language acquisition, provided content objectives are presented side-by-side with language objectives. Effective teaching strategies that focus on making input comprehensible (not easy, but understandable) for all students can allow ESL students to participate fully in content learning.

Myth #5: ESL students should be discouraged from using their native language in school.

In fact, the student’s first language can be an important tool in the development of content knowledge. ESL students arriving as adolescents, particularly those who have already established literacy skills in their first language before entering the English-speaking classroom, should be encouraged to continue to develop cognitive skills in both languages. Abstract concepts can sometimes be more quickly understood through translation, or instructions can be quickly explained by one student who shares a first language with another who doesn’t understand what to do. Allowing students to sometimes use their first language in the classroom also demonstrates respect for the cultural and linguistic diversity that they bring into the classroom, and helps build self-confidence.
Resources:


Understanding Academic Language – BICS and CALP

You may have an ESL student who seems to communicate with friends and teachers with ease yet struggles with language in the classroom. These common difficulties are related to the type of language that is used in the academic setting. To explain this apparent contradiction, Cummins (1984, 1992) offered a useful theoretical framework for conceptualizing two distinctive categories of language proficiency, which he called basic interpersonal communicative skills (BICS) and cognitive/academic language proficiency (CALP). To be successful in the content-area classroom, students need to master academic language, and teachers play an important role in helping them become proficient in language they need for classroom learning.

- **Basic interpersonal communicative skills (BICS),** also known as social language, is the language typically used in everyday conversation. The situations that require BICS are more contextualized and less cognitively demanding (Cummins, 1992, 2001). Students use BICS, for example, when ordering from a menu in a fast-food restaurant or playing a game of soccer with friends. In such situations, social context provides a wide variety of cues and offers ways to figure out meaning, even if all the words aren’t understood. Becoming proficient in BICS can take from 6 months to 2 years (Collier, 1987; Cummins, 1984; Hakuta, Butler, & Witt, 2000).

- **Cognitive/academic language proficiency (CALP),** also known as academic language, is the language of the classroom. Academic language requires deeper levels of understanding of the language, so it is more cognitively challenging. It is also more abstract, since there are fewer situational cues and opportunities to negotiate meaning (Cummins, 1992, 2001). When students read from a textbook or listen to a lecture, they need to know not only the specialized vocabulary of the discipline of study, but also how to think about ideas and express their thoughts on a given topic. Students use academic language, for example, when they synthesize
information or infer meaning. It takes much longer to become proficient in academic language, usually 5 to 7 years (Collier, 1987; Cummins, 1984; Hakuta et al., 2000). This is the reason that ESL students who have acquired BICS still need many more years of support while they work on developing CALP, which they need for success in such content-area subjects such as history, physics, biology, or English literature.

- **Language proficiency continuum.** Cummins (1992) made his framework easier to visualize by depicting the distinction between these two types of language proficiency in the form of four quadrants, vertically ranging from cognitively undemanding to cognitively demanding, and horizontally ranging from context embedded to context reduced. Any linguistic task can be placed in one of the four quadrants based on where it fits within these two continuums, whether it be a casual conversation with a friend, talking on the telephone, listening to an abstract scientific discussion, or writing a research report for history class. The framework is pictured below, with several examples provided in each of the quadrants.

![Language proficiency continuum diagram]

Cummins (1992) recognized the danger of oversimplifying reality by using a dichotomy such as BICS and CALP, but the focus of the distinction was to create an awareness of student needs that were not being addressed in the classroom. It is widely accepted that the biggest challenge for ESL students in content-area classrooms is the development of CALP (Channa & Soomro, 2015; Lucas & Villegas, 2013; Roessingh, Kover, & Watt, 2005; Zwiers, 2008). Educators of ESL students need to recognize that students continue to need linguistic support in the classroom well beyond the point where they appear to be able to speak the language relatively fluently in daily conversations. As students are learning the abstract concepts in the content-area classroom, teachers need to know how to explicitly teach academic linguistic skills along with the content — analyzing, interpreting, synthesizing, hypothesizing, evaluating — and give students plenty of opportunity to practice reading, writing, speaking and listening to academic language (Cummins, 2000; Echevarría, Short, & Powers, 2008).

Resources:
Second Language Acquisition Theory and Implications for Educators

Knowledge about how language is acquired offers a starting point for all discussions on effective teaching strategies and techniques for content-area teachers of ESL students. However, not everyone is interested in learning about theory. Maybe you just want the quick and dirty tips. If that is the case for you, you can skip this section and move on to the more practical suggestions for teaching ESL students in the “Teaching Tips” section. But if you are interested in knowing where the recommendations come from, then read on.

Since comprehensible input, output and interaction have been found to enhance second language acquisition, it’s important for content area educators to know how to make content comprehensible, to give students opportunities to speak and write in the classroom, and to provide opportunities for communicative exchange in the classroom.

Comprehensible Input

- **SLA Research:** In what is known as the input hypothesis, Krashen (1985, 1982) proposed that language is acquired through understanding messages, or what he termed comprehensible input. Meaningful comprehensible input, he contended, is both sufficient and necessary for second language acquisition. He further explained that for input to be comprehensible, it must be delivered in just the right quantity and at a level that is just above the acquirer’s current level, or “i + 1” (Krashen, 1982). While many researchers don’t agree that comprehensible input is sufficient for second language acquisition, none have argued that it is not necessary (Knoblock & Youngquist, 2016).

- **Educational Implications:** To foster second language acquisition of ESL students in the content area classroom, teachers should strive to modify the delivery of lessons using a variety of techniques to help ESL students, and indeed all students, better understand the content. Such techniques include adjusting rate and clarity of speech, clearly spelling out academic tasks and expectations, linking information to prior knowledge, modeling, or using demonstrations, visuals, hands-on learning, gestures and other non-verbal means of communication (Echevarria, Vogt, & Short, 2014).
Comprehensible Output

- **SLA Research:** Comprehensible output, a parallel concept to comprehensible input, has also been found to be essential in the process of acquiring a language (Swain, 1993). Output, more than just producing language by speaking and writing, is an intricate internal process that can foster the development of language competence in several ways:
  - Students can practice language through meaningful communication.
  - When attempting to use the language, students can understand what they know and where they are having problems.
  - Students can test out their ideas about language to see if they work in communication.
  - The student’s attempt to speak and write can create a response that informs the student on the comprehensibility or accuracy of their output.

The basic idea here is that having the chance to practice speaking and writing the language give students the opportunity to explore further the language that they produce (Swain, 2000).

- **Educational Implications:** In the classroom, teachers should allow students ample opportunities to speak and write to promote language learning. Collaborative tasks, in which students work in pairs and focus on communicating content, with the end goal of producing a written text or oral presentation, can function to develop both content knowledge and language proficiency (Swain, 2001). ESL students will need specific guidance with language. Refer to the section entitled “Creating Language Objectives” for advice on how to explicitly teach language to ESL students so that they can fully participate in speaking and writing tasks in the classroom.

Social Interaction

- **SLA Research:** Other researchers have considered both input and output, framing studies in second language acquisition around the notion that knowledge is constructed in social and cultural contexts (Lantolf, 2000; Swain, 2000). The basic idea is that social interaction can enhance second language learning. In analyzing communication between native speakers and non-native speakers, it was found that input and interaction is adjusted to keep the conversation going. Meaning is negotiated through strategies such as slower speech, repetition, comprehension checks, clarification requests, or changing the topic of conversation. Such negotiation of meaning can potentially help the learner to understand input as well as highlight certain language forms and, in this way, assist in language learning (Gass, 1997; Long, 1981; Pica, 1994).
- **Educational Implications:** The content-area classroom can provide an ideal setting for learning language through social interaction. Students should be given plenty of opportunities to collaborate with others through pair work or small group discussions. Collaborative activities that involve working together with others and then reporting out orally or in writing can give students a chance to learn both content and language. The jigsaw method is one example of activities that require social interaction. Scaffolding, the process of assisting learners as they move towards independence, is also a very important strategy for all students, but particularly for ESL students. Having students share what they know before presenting a new lesson, teacher-led discussion can then bring them to the next step. Students should then be given the chance to work together with other students through some type of cooperative learning activity, in small groups and then in pairs. The goal is for students to eventually to carry out a task or demonstrate newly acquired knowledge independently.

**Resources:**


Content-based Instruction

In a short book entitled Language and Content, Mohan (1986) called for an approach to curricular design that would combine subject matter and language learning so that academic language proficiency could be more attainable for students involved in classroom learning. The idea that language learning belongs to one classroom and content area learning belong to another, he argued, is flawed and does not allow ESL students to reach their potential in academic success. These ideas form the foundation for content-based instruction, an approach to curricular design that seeks to integrate language learning with content learning. The content-area classroom, when language objectives are taught alongside content objectives, provides an ideal opportunity for ESL students to develop academic language proficiency in an authentic learning context.

What is CBI?

- CBI allows for a meaningful and authentic context for language learning and teaching.
- In CBI, the curriculum as well as the organization of the course is guided by the content.
- Both language and content are presented simultaneously in the classroom.
- Language learning is fostered by presenting the content material in a way that learners can understand (that is, through comprehensible input) (Brinton & Holten, 2001).

Why CBI?

- Language learning is most successful when the language presented fits closely with the learner needs and future goals (Brinton, Snow, & Wesche, 2003).
- When language is taught along with content, students can become familiar with authentic uses of language in academic contexts (Channa & Soomro, 2015).
- Learners are more motivated when they can negotiate meaning through authentic and relevant content, solving real-life problems and making connections between concepts and skills they are learning (Met, 2000).
- Learning content is cognitively challenging for students, and gives them opportunity to develop academic language skills (Channa & Soomro, 2015).
- Integrating content and language is an efficient use of time in that less of the school day is devoted to learning language as a separate subject (Met, 2000).
Learning language through content meets several conditions for language learning: a focus on both meaning (content) and form (using appropriate language), with opportunities for comprehensible input, output, and interaction (Brinton et al., 2003). Subject-area instruction in the secondary classroom that accommodates the linguistic and academic needs of ESL students fits within the CBI approach to language learning and most closely resembles the sheltered model of instruction. The premise of the sheltered model is that, provided the conditions are suitable, content instruction and language instruction can happen simultaneously in the same classroom (Snow, 2005). Research in various versions of the sheltered model of instruction provide insights regarding how to create ideal learning conditions for ESL students as well as how to deal with the challenges of integrating content and language instruction (Echevarria et al., 2008; Echevarria et al., 2014; Knoblock & Youngquist, 2016; Short, Fidelman, & Louguit, 2012). The tips and strategies offered on this website closely align with the sheltered model of instruction. What is most important to remember is that addressing the needs of ESL students takes more than just being a good teacher. It is important for teachers to be aware of the linguistic needs and abilities of their ESL students to be able and willing to adjust teaching accordingly (De Jong & Harper, 2005).

Resources:
This section offers some tried-and-true tips and strategies for teaching ESL students in the content-area classroom. While these tips certainly don’t cover everything, they’re a good place to start.

1. **Make input comprehensible…**

There are a variety of techniques that teachers can use to modify how content is delivered so that ESL students can follow the content while also developing academic language proficiency. Such techniques include speaking slowly and clearly (but not repeating in a louder voice!) or using gestures and other non-verbal cues to get your point across. It can also be helpful to model exactly what it is you want your students to do, or how you want the finished product to look. Writing things down on the board or on handouts can support comprehension as well. Using videos, demonstrations, graphic organizers, visuals, hands-on learning are methods that can help all students more easily grasp difficult concepts.

2. **…but don’t “water down” your lesson.**

Making input comprehensible doesn’t mean leaving out difficult concepts. Limited English proficiency does not correspond with limited academic or cognitive ability. International ESL students who have been educated in their own country before coming to the U.S. have already built a foundation of academic learning in their own language, and are therefore quite able to handle cognitively challenging material. Challenge them to think about difficult concepts, but assist them in developing the linguistic tools they need to adequately express their ideas.
3. **Be aware of the difference between academic and social language.**

   Even ESL students who speak English fluently may be lacking language skills they need for the classroom. It has been found that, while language learners may be able to converse easily in the language after a year or two of studying the language, academic language can take several more years to master. Academic language is much more abstract and cognitively challenging. To be successful in the content-area classroom, students need to master academic language, and teachers play an important role in helping them achieve academic language proficiency.

4. **Be aware of your own language and your content language.**

   Native speakers of English are often unaware how commonly-used language can be quite difficult for non-native speakers to understand. Idioms and other figurative language, for example, or culture-laden vocabulary and concepts can create road blocks in communication for ESL students. Listen to your own language when you are speaking. If you hear yourself say, “It’s a piece of cake,” know that it would be helpful for your ESL students if you also explain that this means, “It’s easy.”

   Vocabulary can also be content-specific, another source of confusion for ESL students. There is the “table” we sit at and then there is math “table” that is a set of data arranged in rows and columns. There is a “plot” of land, a “plot” of the story, and “plotting” the points on a graph. Think about language in your content area that may be confusing for students who only know the basic meaning of the word. Make it a point to teach them explicitly potentially unfamiliar meanings of common words that have special meanings.

5. **Link new information to prior knowledge...**

   Remind students of what they have previously studied, and ask questions to find out what they already know about a topic before jumping into new content. Give them a chance to talk briefly with other students about what they already know about the upcoming topic. Have them write down what they already know about a topic, think about what they would like to know, and then go back to their ideas again after the lesson. (Using **K-W-L charts** is one method for having students record this information). For ESL students, scaffolding instruction by linking prior knowledge to new knowledge can get them ready for the upcoming lesson and allow them to better comprehend the content presented.
6. **...and provide background knowledge.**

Once you find out what the students know or don’t know about a topic that will be covered, give students background information and language they might need to fully participate in the content learning. Methods such as pre-teaching vocabulary, showing a video, putting students in small groups to discuss questions related to the topic, and reminding students how new concepts are related to ones they’ve already studied can allow students to more easily understand new concepts and more fully participate in the lesson.

7. **Along with content objectives, determine language objectives for each lesson.**

When writing up lesson plans, include language objectives side-by-side with content objectives. Think about the vocabulary you would like students to learn, or the type of language they will need to accurately discuss or write about the content. How will they develop reading, writing, listening and speaking skills in each lesson? What kind of language will they need to demonstrate at the end of the lesson? What kind of language learning strategy could they practice that would fit well with the content topic presented in the lesson? Talk clearly about language objectives with the students, so they can be more aware of the language they need, use, and are exposed to as they study the content. You can find more in-depth coverage of language objectives and how to create them in your lessons on this website.

8. **Be aware of the relationship between a student’s native language and English.**

A language learner’s first language (L1) has an influence on English language acquisition. You don’t need to know how to speak the languages of all your students, but you should be aware of certain characteristics of students’ L1 that might create some difficulties for them when learning English. A few examples will suffice to give you an idea of what kinds of issues might arise. In Chinese, tenses are not expressed by changing the verb form like they are in English. Instead, separate words designate different tenses. You can, therefore, expect that Chinese students will often be confused with verb tenses. Word difficulties for Japanese students is another example. While English sentences follow one pattern (subject verb, object), Japanese sentences follow another (subject, verb, object). The organization of texts is another issue for language learners. English writing begins with a main idea that is followed by supporting details. In contrast, many Asian countries
have a much more circular and indirect style of writing. It is important for teachers to think about the role of language variation to better understand difficulties that students will encounter in language learning.

9. **Allow students to sometimes use their native language.**

Although not everyone agrees on the role of the first language (L1) in the second language (L2) classroom, it is important to note some possible advantages of using L1 for content learning in English. Reading articles in L1 can help students to quickly gain background knowledge on a topic. Conversing with other students in L1 can be a way for them to share ideas on the content learning, expand background knowledge, and build confidence in their knowledge of the material before sharing out to the class in English. Students who understand the concepts can translate to others who may not. Allowing the students to use L1 can help them to relax and perhaps motivate them to participate in class discussions with more confidence.

10. **Use cooperative learning strategies to promote classroom interaction.**

Interacting with other students not only keeps the students engaged but gives them a chance to understand more about the lesson is a non-threatening way. Students may be hesitant to ask questions in front of an entire classroom, but comfortable asking questions when working in a small group or with a partner. Cooperative learning activities, such as the jigsaw method or reciprocal teaching, give students more opportunities to think and talk about the content, and practice using the language. This brings us to the next suggestion.

11. **Give students opportunities to speak and write...**

Practice makes perfect, so the adage goes. While perfection does not necessarily need to be the goal, practice in speaking and writing is essential in the process of language acquisition. When students have opportunities to speak and write about meaningful and authentic content, they are developing academic language proficiency at the same time. Have students share their ideas with a partner, write in a daily journal, or collaborate in small groups. The more they write and speak in English, the more they will learn about both language and content.
12. **...and be explicit in your feedback of their speaking and writing.**

Listen to the language students use when speaking. Don’t interrupt them to make corrections to their language when they speak inaccurately, but gently model more appropriate language or accurate pronunciation.

When giving feedback on student writing, look not only at the content but the language they have used to express their ideas. Have they used complete sentences? If not, point this out to them. Do they use the same verb over and over? If so, offer them a few suggestions to add variety to their language. Do you have a hard time following their train of thought? If so, maybe they need some advice on words and phrases that can be used to make connections between their ideas, or [transition words and phrases](#).

13. **Be patient and wait for students to respond.**

It takes time for ESL students to formulate a response and work up the courage to speak aloud. Give students the time they need to respond fully, and resist the urge to interrupt them or push them to speak more quickly than they are able. Your patience will allow them to feel more willing to speak up again in future classroom discussions.

14. **Teach sentence starters for academic discussion practice.**

Provide ESL students with sentence starters that will help others understand their ideas. When expressing an opinion, for example, give them a sentence starter, such as, “*In my opinion...*”, or when disagreeing, “*I see what you mean, but...*”, to give them practice with appropriate language classroom discussions. If the discussion is centered around comparing two concepts, give them language options for expressing these ideas, such as, “*X and Y are similar in that they both...*,” or “*In contrast to Y, X is....*” Students who have guided practice with academic language will eventually be able to use this language successfully on their own, an important goal for language learning. More information on providing [sentence starters](#) for English language learners is provided on this website and includes link to other resources as well.

15. **Use the ESL teacher as a resource.**

The ESL teacher is an invaluable source of information on language learning. With background and training in second language acquisition, ESL teachers can pinpoint the areas in a content lesson that ESL students are most likely to find challenging. They can suggest strategies to address the specific language needs of ESL students in the
classroom, from ideas for making input more comprehensible, to methods for creating language objectives, to methods for adjusting assessment. There are a variety of different ways that content-area teachers and ESL teachers can collaborate to meet the unique needs of ESL students. As every school context is different, teachers should find the collaborative method that works best for their specific situation. ESL students can greatly benefit from such collaborative efforts between ESL and content teachers.

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Resources:
Creating Language Objectives

As a content-area instructor, you may not think of yourself as a language teacher. With ESL students in the content classroom, however, language learning objectives should be created along with content learning objectives to support the development of students’ academic English. These language learning objectives should complement the content knowledge. When creating a lesson plan, think about the content knowledge students are expected to learn. Then, consider what language the students will need to use to carry out the tasks that support the content learning.

What are language objectives?

The following guidelines offer a starting point for creating language objectives. Language objectives for classes in which English is the medium for content learning include not only vocabulary, but also language functions, structures, strategies and all language skill areas - reading, writing, listening, and speaking.

1) Identify vocabulary that students will be need to know to understand the lesson.

Vocabulary could be key words that appear in bold face in the textbook (such as genetics or hybrid), but includes much more. What words do students need to know to complete an assignment, to follow along in a lecture, to talk about the content, to write about what they have learned? Think about not only the technical words that go along with the content area, but also academic words that are used across the disciplines (such as demonstrate or facilitate). A very useful list of words frequently used in academic context is the Academic Word List (AWL). Developed by Averil Coxhead, the AWL is a useful resource for all teachers of English language learners in academic settings. There are also words that are used in certain disciplines that have a different meaning from the general use or from other disciplines. There is your foot and a hand, one foot in length, or the foot of a mountain, for example. Teaching prefixes and suffixes, specifically which ones are most helpful varies from one discipline to another, is also a helpful way to expand students’ academic vocabulary. Inferring meaning through context is an important way for them to learn new words. Encourage students to try to guess the meaning from the
context when possible. Another tool that can be useful is to have students get in the habit of keeping a **vocabulary journal** to track new words. One of the important benefits of studying language through content is that students are using language for authentic purposes, but students need to be encouraged to find ways to help them remember new words and should be given ample opportunity to practice them in reading and writing.

2) Think about the **language functions** required for students to participate in the lesson. Justifying, comparing, describing, debating, persuading, and evaluating are all examples of language functions that are used across the disciplines in academic contexts. By identifying the language function the students will be using for a content lesson, language objectives can be established that relate to this function. For example, if a student will be asked to compare two time periods in history, what language will they need to carry out this function? If you are going to hold a classroom debate, what language will they need to persuade? In a math lesson, students might explain a word problem, or in history they can explain the causes of World War I. They can justify the results of a chemical experiment or justify your conclusions about the benefits of socialism as a form of government. **Bloom’s Taxonomy** provides a useful framework for organizing classroom tasks and language objectives based on language function.

![Bloom’s Taxonomy](https://cft.vanderbilt.edu/cft/guides-sub-pages/blooms-taxonomy/)

From Vanderbilt University Center for Teaching website: [https://cft.vanderbilt.edu/cft/guides-sub-pages/blooms-taxonomy/](https://cft.vanderbilt.edu/cft/guides-sub-pages/blooms-taxonomy/)
Part of the language objective related to language functions is to teach students what the language function words mean. As you ask students to perform tasks such as open-response writing tasks, for example, you should also teach the meaning of key directional words they will see in instructions so that students will understand how they are expected to respond.

3) Decide what language or grammatical structures fit within the framework of the content lesson. The passive voice in explanation of a scientific process can be the focus of a mini-lesson on passive versus active voice. If students are going to compare the North and South before the Civil War, they would need to know comparative structure, such as more than or less than. Sentence starters such as “Both _____ and _____,” or “Similar to _____,” or “In contrast to _____.” If students will be asked to talk about what they know about a topic, sentences starters such as “I already know that…,” or “This reminds me of…” can help them express their ideas. Providing students with sentence frames and sentence starters that they need for a classroom task gives them greater opportunity to not only participate in class discussions but to practice using academic English in the authentic context of the content classroom. Oftentimes, students aren’t sure how to connect their ideas, and providing them with transitions that are useful for a certain writing topic can help them practice using effective writing skills. Particularly for writing tasks, students need to be explicitly taught how to use transitional words and phrases. Giving students opportunities to pay attention to and practice the language and grammatical structures in speaking or writing in the authentic context of the content classroom can go a long way toward fostering academic language development.

4) Consider how students will use the four language skills: reading, writing, listening, and speaking. While all these skills are often used in every lesson, you can identity certain skills you want student to focus on for a given task. After you implement one of these skills as a language objective, you should make a point of having students use this skill in order to complete a task. Will the student need to read and understand a section in the textbook? Will they write a summary of the reading? Will they listen to a lecture while they take notes? Will they present their findings orally to the class following a chemical lab experiment? Give students opportunities to practice reading, writing, listening, and speaking on a regular basis as they develop academic language proficiency in each of the four skill areas.
5) Teach students **language learning strategies** to help them to become more independent learners. Include strategies such as thinking about what you already know, re-reading, summarizing, using selective attention, or making predictions in a way that fits with the content lesson. Encourage students to think about what they already know about a topic before presenting a new concept, have them give an oral summary to demonstrate they understand a text you’ve just read in class, or urge them to look for key words in a unit by using selective attention. The National Capital Language Resources Center has an explanation of **language learning strategies** in the form of workshop handouts, including a learning strategies model, which provides a closer look at what is involved in using the strategies in classroom learning. Teaching strategies are important in that they can foster independent language learning.

**What do these language objectives look like in the classroom?**

With an understanding of some of the guidelines for creating language objectives, we can look more specifically at what these objectives look like in the content classroom. Divided according to three different content areas, social studies, math, and science, below are some strategies for including language objectives in your lessons.

1) **Modern American History**
2) **Precalculus**
3) **Biology**

It is important to keep in mind that the suggested strategies for including language objectives are not limited to any one discipline, but are only separated here to give a clearer idea of what a language objective might look like when paired with specific content objectives. Keep in mind that strategies for implementing language objectives can be used across the content areas, and adjusted to match the content focus.
Below is a sample from a textbook for Modern American History, with a chapter overview with content objectives. 

**Subject:** Modern American History  
**Chapter:** Reconstruction  
**Lesson/Section Topic:** Presidential Reconstruction  
**Content Objectives:** Student will...  
- Describe the condition of the South in the aftermath of the Civil War.  
- Compare the Reconstruction plans of Lincoln and Johnson  
- Explain how newly freed slaves began to rebuild their lives and how the federal government helped them  
- Define key terms: Reconstruction, pardon  

**Main Idea:** During the Reconstruction era, the federal government put forth plans to allow southern states to resume participation in the Union.  
**Reading Strategy:** Organizing Information - As you read, list the main heading of the section in a chart. Beneath each heading, list at least two key facts.  


Language objectives should be added to align with the content objectives. In the box below are a few suggestions:

**Language Objectives:** Students will...  
- Comprehend content vocabulary words: plunge, inadequate, unreliable, outcome, provision, confine, recess, void  
- Make a comparison between the Reconstruction plans of Lincoln and Johnson, using Venn diagram and words and phrases for comparison.
Students could be given a vocabulary journal to record new words (other than the key words that are bold-faced in the textbook). The vocabulary journal could be a regular part of every lesson, so that eventually students get in the habit of discovering new words in readings and completing the vocabulary journal on their own to expand their academic vocabulary. Below is a sample of a partially completed vocabulary journal that matches this lesson. You can find a vocabulary journal template in the appendix.

Vocabulary Journal for **Chapter 3, Reconstruction**

<table>
<thead>
<tr>
<th>Pg #</th>
<th>Word</th>
<th>POS</th>
<th>English definition</th>
<th>Visual representation</th>
<th>Sentence from Book/Other examples/Notes</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>plunge</td>
<td>verb</td>
<td>to fall or drop suddenly in amount, value, etc.</td>
<td>![Visual representation of plunge]</td>
<td>Book: The value of southern farm property had plunged 70 percent. Other: The stock market plunged and he lost all of his money</td>
<td></td>
</tr>
<tr>
<td>127</td>
<td>recess</td>
<td>noun</td>
<td>a usually brief period of time during which regular activity in a court of law or in a government stops</td>
<td>![Visual representation of recess]</td>
<td>Book: Congress was in recess until December. Other: The court was in recess.</td>
<td></td>
</tr>
<tr>
<td>127</td>
<td>confine</td>
<td>verb</td>
<td>to keep (someone or something) within limits; to prevent from going beyond a particular limit, area, etc.</td>
<td>![Visual representation of confine]</td>
<td>Book: ...confine himself to his executive duties... Other: She was confined to her bed when she was sick.</td>
<td></td>
</tr>
</tbody>
</table>
To work on discussing and writing about the similarities and differences between the Reconstruction plans of Lincoln and Johnson, students could be given a Venn diagram to map their ideas:

Once students have completed the Venn diagram, they are ready to use transitions to write a paragraph.

<table>
<thead>
<tr>
<th>Compare and Contrast</th>
<th>To express similarities</th>
<th>To express differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td></td>
<td>However</td>
</tr>
<tr>
<td>Similarly</td>
<td></td>
<td>In contrast</td>
</tr>
<tr>
<td>In the same way</td>
<td></td>
<td>Conversely</td>
</tr>
<tr>
<td>Likewise</td>
<td></td>
<td>In contrast to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Different from</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On the other hand</td>
</tr>
</tbody>
</table>

- denied pardons to Confederate leaders or people who had killed African Americans
- state constitutional convention only after 10% of voters gave allegiance to Union
- pardoned southerners who gave allegiance to Union
- permitted states to hold constitutional convention
- states could hold
- officially denied pardons, but issued pardons to leaders who asked him personally
- plan was more generous to the South (didn’t need 10% allegiance)
- states had to void secession, abolish slavery, and ratify 13th Amendment
A text structure frame can also help students to put their ideas together. This should not be thought of as a worksheet, but a guideline for students as they analyze and interpret the information they discover in the reading.

Both President Lincoln and President Johnson created a plan for letting Southern states come back into the Union. The plans were similar and different in several ways. Both plans pardoned Southerners who promised to give allegiance to the Union. They also allowed states to hold constitutional convention. However, in Lincoln’s plan states could only hold constitutional convention if at least 10% of the voters gave allegiance to the Union. Johnson’s plan, on the other hand, did not require the 10 percent. This difference helps us to see that Johnson’s plan was more generous to the South.

By using a vocabulary journal template, graphic organizers, transitional words and phrases, and a text structure frame, students are guided through the process of meeting the language objectives for the lesson.

Below is a sample from a textbook for Precalculus, with a chapter overview with content objectives.

Subject: Precalculus  
Chapter: Polynomial and Rational Functions  
Lesson/Section Topic: Polynomial Functions; Curve Fitting  
Content Objectives: Students will...  
- Identify polynomials and their degree.  
- Identify the zeros of a polynomial and their multiplicity  
- Analyze the graph of a polynomial

Language objectives should be added to align with the content objectives. In the box below are a few suggestions:

**Language Objectives:** Students will...

- Explain orally (with a partner and then to the class) why an equation is not a polynomial function, using full sentences with “because” or “since,” and the math terms polynomial function, degree, variable, zero function, constant function, negative, positive, integer, variable

The language objective is to give student opportunities to practice explaining their reasons using both mathematical vocabulary and structured language to explain reasons. Having students work with a partner, rather than calling on one student to give the answer, will not only give all the students more speaking practice, it will also allow them time to gain confidence in their answer before having to address the entire class.

**Problem:** Determine which of the following are polynomial functions. For those that are, state the degree; for those that are not, tell why not.

a) \( f(x) = 2 - 3x^4 \)  

b) \( g(x) = \sqrt{x} \)  

c) \( F(x) = 0 \)

Instead of allowing students to give a “yes” or “no” and a simple one-word reason, students should be encouraged to explain the reasons using more complete sentences.

- Instead of an explanation that sounds like: “First is yes, degree 4” Or “The second one no, not nonnegative integer”
- Encourage an explanation that is more like: “In the first problem, \( f \) is a polynomial function of degree 4.” Or “In the second problem, \( g \) is not a polynomial function, because the variable \( x \) is raised to the \( \frac{1}{2} \) power, which is not a nonnegative integer.”

Using language objectives such as those suggested above allow the students to work on solving math problems while developing academic language skills.
Below is a sample from a Biology textbook, with an overview of a lesson on Gregor Mendel’s principles of probability and how his principles can be used to predict inherited traits.

**Subject:** Biology  
**Chapter:** Introduction to Genetics  
**Lesson/Section Topic:** Applying Mendel’s Principles  
**Content Objectives:** Students will...  
- Use probability to predict traits.  
- Draw a Punnett square to predict traits.  
- Define key terms: probability, homozygous, heterozygous, phenotype, genotype, Punnett square, independent assortment

**Main Idea:** Mendel’s principles of probability can be used to predict inherited traits.

**Taking Notes:** Preview diagram of segregation and probability; write a statement to infer the purpose of the diagram; read the chapter; revise your statement after reading the chapter.


Language objectives should be added to align with the content objectives. In the box below are a few suggestions:

**Language Objectives:** Students will...  
- Comprehend the meaning of the prefixes: geno- and pheno-, and homo- and hetero-  
- Comprehend the meaning of prediction and probability.  
- Predict and describe the probability of that a child will inherit a certain trait from their parents, using words for prediction, “If...then...” to talk and write about their predictions.
The first two objectives focus on developing vocabulary to help English language learners participate more effectively in the lesson. Bringing their attention to the meanings of prefixes helps students to expand their vocabulary. They can transfer their knowledge of the prefixes and suffixes to other words they encounter in the future with the same prefixes and suffixes. You can do the same thing with the word “prediction.”

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Meaning</th>
<th>Example Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>pheno-</td>
<td>“to show” (from Greek <em>phainein</em>)</td>
<td>phenotype, phenocopy, phenozygous</td>
</tr>
<tr>
<td>geno-</td>
<td>“race,” “kind” (from Greek <em>genus</em>)</td>
<td>genotype, genocentric, genotoxic</td>
</tr>
<tr>
<td>homo-</td>
<td>“one and the same” (from Greek <em>homo</em>)</td>
<td>homozygous, homochromous, homatomic</td>
</tr>
<tr>
<td>hetero-</td>
<td>“different,” “other” (from Greek <em>heteros</em>)</td>
<td>heterozygous, heterophyllous</td>
</tr>
<tr>
<td>pre-</td>
<td>“previous to,” “before” (from Latin)</td>
<td>predict, preview, preclude, precede</td>
</tr>
</tbody>
</table>

The third objective emphasizes specific language and grammatical structure students will need to discuss and write about prediction and probability. Sentence frames provide students with the language and grammatical structures they need to talk about the Punnett Squares they draw as part of the content lesson.

<table>
<thead>
<tr>
<th>Prediction and Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expressing predictions</strong></td>
</tr>
<tr>
<td><em>(pre- = before, dict = to say, and –tion = a noun of action or condition)</em></td>
</tr>
<tr>
<td>If ________, then __________.</td>
</tr>
</tbody>
</table>

If students are divided into pairs at this point, and are encouraged to talk about the process of drawing the Punnett square and discuss the predictions with a partner, this will provide more opportunities for them to practice speaking and listening before the writing task.
Providing students with a template for drawing and writing about results of Punnett squares allows them to practice using accurate language for prediction and expressing probability.

**Work with a partner to draw a Punnett square.** Speak aloud as you describe the process of creating, analyzing, and making conclusions about the Punnett square. Then, talk about your predictions.

**Question 1:** What percentage of the children will be expected to have dimples if one parent is homozygous for the dominant trait of dimples (DD) and the other is heterozygous (Dd)?

<table>
<thead>
<tr>
<th>Draw Punnett square:</th>
<th>Talk and write about Punnett square:</th>
</tr>
</thead>
<tbody>
<tr>
<td>D  D</td>
<td>If <em>one parent is homozygous for the dominant trait of dimples (DD) and the other is heterozygous (Dd)</em>, then <em>100 percent of their children</em> will be expected to <em>have dimples.</em></td>
</tr>
<tr>
<td>D  D</td>
<td></td>
</tr>
<tr>
<td>Dd  Dd</td>
<td></td>
</tr>
</tbody>
</table>

**Now work on your own.** Draw the Punnett square. Think about the process. Write down your predictions. Share your predictions with your partner.

**Question 2:** What percentage of the children will be expected to have dimples if both parents are heterozygous for the dominant trait of dimples (Dd)?

<table>
<thead>
<tr>
<th>Draw Punnett square:</th>
<th>Talk and write about Punnett square:</th>
</tr>
</thead>
<tbody>
<tr>
<td>D  d</td>
<td>If <em>both parents are heterozygous (Dd) for the dominant trait of dimples</em>, then <em>75 percent of their children</em> will be expected to <em>have dimples.</em></td>
</tr>
<tr>
<td>D  DD</td>
<td></td>
</tr>
<tr>
<td>Dd  Dd</td>
<td></td>
</tr>
<tr>
<td>Dd  dd</td>
<td></td>
</tr>
</tbody>
</table>
Resources:


Creating a Culturally Responsive Classroom

Language is inseparable from culture. As such, meeting the language needs of your students is intrinsically tied to addressing the issue of culture. While ultimately it is the student’s responsibility to make the adjustments necessary to success in the American classroom, teachers can play an important role in easing the transition. In the classroom, students and teachers can become more aware of how their own culture influences their expectations, attitudes and behavior. Students can learn new ways of thinking and learning. Teachers, in turn, can learn to appreciate and respect the different cultural perspectives that ESL students bring into the classroom. This section provides several recommendations for culturally sensitive classroom feedback.

It is important to note that these recommendations come with the caveat that any generalizations about culture enters dangerous territory. The hope is that teachers who are aware of some of the cross-cultural challenges that ESL students may face in the classroom can be better equipped to guide students through a positive and successful academic and cross-cultural experience.

1. **Encourage students to participate in class discussions.**

   American students are accustomed to asking and answering questions in an interaction-oriented classroom. They are used to speaking up in class, and usually don’t mind standing out or expressing their own opinion. Asian students, however, often prefer to remain inconspicuous. The Japanese proverb, “The nail that sticks out gets hammered down,” speaks to the cultural norm of the importance of conformity. In many Asian cultures, students are expected to sit quietly and listen to the teacher lecture, interruptions are considered disrespectful, and group work is uncommon. While Asian ESL students are used to being quiet in the classroom and may feel uncomfortable doing otherwise, having opportunities to speak up in class will give them practice both developing this skill and becoming more accustomed to the more interaction style of the American classroom. Be aware that becoming accustomed to new ways of interacting may take time and a little push.
2. **Give students time to respond.**

American classrooms tend to be fast-paced, and ESL students may need more time to formulate their answers and work up the courage to speak aloud in front of others. ESL students have expressed frustration with trying to keep up with the pace of the American classroom. Just as they have worked out a response in their head and are ready to speak up, they realize that the class has moved on to a new topic and the opportunity to contribute to the class discussion is gone. Teachers should find the balance between giving students more wait time without making them feel awkward about taking more time to respond.

3. **Understand the student’s hesitation to challenge ideas.**

The relationship between teachers and students in Asian cultures tends to be much more formal and distant than is typical in the American classroom. Asian students may perceive this more casual student-teacher relationship to show lack of respect for teachers. Having this cultural background, students may very well have an opinion but be unwilling to share it for fear of being disrespectful, particularly if this opinion differs from that of the teacher. Also, be aware that Asian ESL students may feel more awkward than their American classmates when they answer a question incorrectly, especially in front of their peers.

4. **Be aware that students may be reluctant to ask for help.**

Find ways to make sure that ESL students understand requirements for the class, as they may not feel comfortable asking for help. Behaviors that indicate paying attention, showing interest, and acknowledging understanding vary from culture to culture. Asian students, for example, may smile and nod politely even when they do not understand what is being said. Students may be hesitant to ask for help and not want to bother the teacher, but they find it useful to have study guides, notes written on the boards, or other handouts with background information so they can more effectively grasp the material.

5. **Be sensitive to the effects of complimenting and criticizing.**
Complimenting and criticizing can be interpreted differently in different cultures. While American’s tend to compliment freely, Asian students may feel uncomfortable accepting praise, or too much praise can be viewed as insincere. They may have trouble accepting compliments and may even feel shame, as humility is a well-respected virtue in Asian culture.

6. Show appreciation for the student’s cultural background.

ESL students will appreciate the teacher’s efforts to get to know more about where they came from. Learning some basic facts about their country and their culture can make the classroom a more welcoming and inviting environment for ESL students. Also, be aware that comments the come from ignorance about a student’s cultural background can be perceived as discrimination. Think of ways that different perspectives and points of view can be used as learning opportunities for all students, and teachers too.

More information about how Asian classrooms differ from American classrooms are included in the video, “East Meets West in the American Classroom.” You can also find information about the transitional process students experience when they adapt to a new culture in the video, “Culture Shock and Cultural Adaptation: What Teachers Should Know.”

Resources:
In the video, “Culture Shock and Cultural Adaptation: What Teachers Should Know,” the theoretical background on the study of culture, culture shock, cultural learning, and cultural adaptation is considered, along with contemporary perspectives on cross-cultural interaction. Implications for classroom learning are also suggested.

In “East Meets West in the American Classroom,” teachers can learn how cultural differences between Asian and American classrooms can lead to different expectations in student-teacher relationships, class participation, classroom learning, and assessment. Implications for education are also presented.

Stay tuned for more videos on integrating content and language learning!
Resources

Recommended Websites:

- ¡Colorín Colorado! is a bilingual (Spanish/English) website with a wealth of research-based information for educators of ELLs and their families, with a focus on pre-K through 12th grade. The site includes articles from a range of experts in the field of bilingual education, including an overview of language acquisition, suggested activities, lesson planning ideas, teachers’ stories, and plenty of teaching tips and strategies. Teachers are invited to print and distribute the information on this site, such as of classroom lesson plans, worksheets and activities. While the emphasis is on K-12 Spanish-speaking learners, the site has such a broad base of information that is an invaluable resource for all educators of ELLs.

- CAL: Center for Applied Linguistics is a non-profit, private organization promoting mutual understanding between people of diverse cultural and linguistic backgrounds. The website is a source for research-based information on all aspects of language learning and cultural understanding, from pre-K through adult language education. Secondary school educators will find the section for English language learning helpful, including resources, research briefs, workshops, online courses, and publications on topics such as using sheltered instruction and developing academic literacy in the content areas.

- Cult of Pedagogy offers resources and information for all teachers, with a focus on creating a community of teachers who support each other in the profession. Site author Jennifer Gonzalez provides helpful tips for the classroom through articles, videos and blogs, presented in a well-researched yet down-to-earth style. Particularly applicable topics for content-area teachers of ESL students include teaching students about plagiarism, teaching students how to argue, the jigsaw method (for interactive learning), ideas for co-teaching, and strategies for teaching English language learners in the mainstream classroom, and more. Direct links to some of the topics mentioned above are included below:
  - Teaching Students to Avoid Plagiarism
  - 4 Things You Don’t Know About the Jigsaw Method
  - 12 Ways to Support English Learners in the Mainstream Classroom
**Daily Teaching Tools** is a useful site for free access to quality graphic organizers for writing. While there are many sites that offer access to free graphic organizers, this site really has everything you need in one place, including webs for writing preparation, flow charts for sequencing, essay maps, concept wheels, customizable graphic organizers, and free downloading for educational uses.

**edutopia** offers a wide variety of resources for educators, with a focus on helping educators implement classroom strategies such as interdisciplinary studies, project-based learning and technology. The site also promotes professional development for educators through a whole host of articles on a variety of topics. Putting “ESL” or “ELL” in the search box will bring up blogs and articles on topics for educators working with ESL students in the classroom. Many of the articles also include links both within and outside of the edutopia site. A couple of links to start with include:

- 8 Strategies for Teaching Academic Language
- Strategies and resources for supporting English language learners

**Everything ESL** is hosted by Judie Haynes, ESL teacher and author of four books on educating ELLs, and provides teaching tips, lesson plans, and ESL teaching resources. While the lesson plans and resource picks are geared more towards younger learners, information that secondary school educators may find most helpful are the theory-based “teaching tip,” including topics such as BICS and CALP (academic language), collaborative teaching, comprehensive input and output, graphic organizers for content instruction, challenges for ELLs in content area learning, and more.

**Larry Ferlazzo Edublogs** is a clearinghouse of resources for all things ELL, ESL and EFL. An award-winning teacher as well as a prolific author, Larry Ferlazzo posts regular blog updates on a variety of relevant educational topics. The site also organizes a myriad of useful links for both teachers and English language learners. Teachers can find lesson plans, games, and many other resources to help them build curriculum. Students can find over 8,000 categorized links to materials appropriate for English Language Learners.

**Reading Rockets**, created by WETA, a public television and radio station in Washington, DC, is a companion website of ¡Colorín Colorado! devoted to fostering literacy and reading. Some suggestions for strategies for struggling readers are also appropriate for ELLs, including the following links to interactive teaching and learning strategies:

- Concept Maps
- Jigsaw
- Reciprocal Teaching

**Stanford: Understanding Language** is a website published by the Stanford Graduate School of Education focusing on developing effective instruction for ELLs in English Language Arts, Math, and Science. Lesson plans developed by content and language experts are provided, based on common core standards and designed to support ELLs in the content-area classrooms. The lesson plans can help content teacher understand how to develop language
objectives for content area classroom learning. Other teaching resources include papers and academic articles on the topic of understanding language.

- **support REAL teachers** is a website devoted to supporting the development of quality physical education programs, however the section on Effective Teaching Strategies is useful for any teacher regardless of the course content. More importantly, this section contains a valuable sub-section on Teaching Strategies for English Language Learners. Useful strategies for working with ELLs are applicable in any instructional setting as are the suggestions for assignments and activities. Links to a number of other resources for teaching English language learners are also provided.

- **Teaching Channel** is an online community of K-12 educators sharing teaching and learning techniques through videos, articles, blog posts, and Q & A. Content-area teachers of every subject in every grade level will find useful articles. For information related specifically to working with ESL students in the classroom, typing “English language learners” in the search box will bring up related videos, articles, and blog posts. Videos highlight successful classroom techniques, articles (called “Deep Dives”) include resources and tips for working with ELLs, and blog posts offer a variety of practical advice for developing effective teaching strategies for ELLs.
Contact Me

To contact the author of this website with questions or comments, send an email by filling out the form below, or write a comment on one of my blog posts.

Your Name (required):

Your Email (required):

Subject:

Your Message:

Send
References:


Culture Shock and Cultural Adaptation
what teachers should know

The Study of Culture

- Belongs to no specific discipline
- What is culture?
  - "For acquired knowledge people use to interpret experience and generate behavior”
    (from Spindler, 1988)
  - "set of shared values, beliefs and norms that guide behaviors of a group of people, a
culture, a way of living, a way of making sense of the world.
- Neither static nor homogenous
- International students as sojourners

Culture Shock

- "culture shock“ (coined by Oberg, 1960) = stress and anxiety w/o culturally-
determined cues for behaving and interacting with others
- 4 stages:
  1) honeymoon
  2) hostility and frustration
  3) recovery
  4) adjustment and acceptance

Cultural Adaptation

- U-curve
- honeymoon
- transition
- adjustment
- recovery
- cultural learning

Cultural Adaptation

- Psychocultural framework (Adler, 1977), 7-stage process
  1) initial contact – new & exciting
  2) distancing – difference stand out
  3) accommodation – rejection of home culture
  4) assimilation – understanding of host culture
  5) independence – acceptance of cultural differences

Cultural Learning

- By 1980s, culture "shock" a learning process, not an illness to be cured
- Becoming self-aware and open to different perspectives
- Focus on positive consequences of cultural context:
  - adaptation
  - adjustment

Contemporary Perspectives on Cross-cultural Interaction and Adjustment

- 3 conceptual approaches (ABC)
  1) Affiliative – culture skills can be learned
  2) Behavioral – strategies for acculturation & changing cultural identity (like coping with
  any stressful experience)
  3) Cognitive – focus on perceptions of self and others
- Opportunities for cultural learning and teaching

Educational Implications

- Students and teachers can become more aware of cultural influences on
  expectations, attitudes and behavior
- Students can learn new ways of thinking and learning.
- Teachers can learn to appreciate and respect different cultural perspectives
  that students bring into the classroom.
**Video Slides – “East Meets West in the American Classroom”**

**EAST MEETS WEST**

in the American classroom

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**Dimensions of cultural differences**

- Individualism vs. collectivism = value individual or group?
- Collectivist cultures (i.e. Asian culture)
- Individualistic cultures (i.e. American culture)
- Power distance = degree to which inequality in relationships is accepted by those less powerful
- Higher power distance culture (i.e. Asian culture)
- vs. lower power distance culture (i.e. American culture)

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**Stepping inside the Asian classroom**

- **Key Differences:**
  - Relationship between teachers and students (power distance)
  - Class participation (individualism vs. collectivism)
  - Style of learning and assessment

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**Class participation**

- Prefer to remain inconspicuous in the classroom & not stand out
- Used to sitting quietly and listening to teacher lecture
- Group work uncommon
- Frustration with unfamiliar interaction-oriented American classroom with focus on class participation, discussions, & group work

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**Relationship between teacher and student**

- Greater degree of formality and respect towards teachers
- Challenging teacher or interrupting considered disrespectful
- Casual relationship with teacher in American classroom uncomfortable/considered disrespectful

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**Style of learning and assessment**

- Lecture-style lessons, follow textbook, clear notes to copy
- Teacher transmitter of knowledge, students receptors of this knowledge
- Expected to memorize & master without question or discussion
- Unaccustomed to American classroom style of critical thinking & open-ended questions

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**Educational Implications**

- Think of cultural explanations for classroom behavior
- Quiet in classroom
- Not offering opinion
- Discomfort with group work
- May take students some time getting used to new environment

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**References:**


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**Images Used:**

- [Link to image 1](https://www.flickr.com/photos/goldflamingo/1/20233779568/in/photostream/)
- [Link to image 2](https://www.flickr.com/photos/photograph/18892572815/in/photostream/)
- [Link to image 3](https://www.flickr.com/photos/photograph/1/20233779568/in/photostream/)
- [Link to image 4](https://www.flickr.com/photos/photograph/18892572815/in/photostream/)
# Appendix B: Vocabulary Journal Template

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<th>Visual representation</th>
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<th>Sentence From Book/Other examples/Notes</th>
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