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Bilingual Word Detectives: Transferability of Word Decoding Skills for Spanish/English  
Bilingual Students

A thesis submitted in partial satisfaction of the  
requirements for the degree of  
Master of Arts

in

Teaching and Learning (Curriculum Design)

by

Cynthia Gail Cox

Committee in charge:

Susan Scharton, Chair  
Caren Holtzman  
Claire Ramsey

2008

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The thesis of Cynthia Gail Cox is approved and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

University of California, San Diego

2008

I dedicate this thesis to my parents, Douglas and Esther Cox, my brother, Andrés Cox, my mentor, Christine Sphar, and to all my students and their parents who teach me, encourage me and believe that being multilingual is a great asset that opens doors far beyond linguistics alone.

Le dedico esta tesis a mis padres, Douglas y Esther Cox, a mi hermano, Andrés Cox, a mi maestra y consejera Christine Sphar, y a todos mis alumnos y sus padres que me enseñan, me alientan y creen que una persona que habla múltiples idiomas tiene una gran ventaja que abre las puertas a beneficios más grandes que solamente los beneficios lingüísticos.

“We fight indifference through education; we diminish it through compassion.” – Elie  
Wiesel

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## ABSTRACT OF THE THESIS

Bilingual Word Detectives: Transferability of Word Decoding Skills for Spanish/English  
Bilingual Students

by

Cynthia Gail Cox

Master of Arts in Teaching and Learning (Curriculum Design)

University of California, San Diego, 2008

Susan Scharton, Chair

Students who come into elementary schools in the U.S. with Spanish as their primary language arrive with a storehouse of information that can facilitate the acquisition of English. Because of the similarities in orthography and meaning of Spanish and English words of common Latinate origins and because these words are often high level academic words, there should be an attempt to use Spanish as a well-spring to

provide access to meaning of words in English. Teachers should give Spanish/English bilingual students skills to use their primary language to make meaning of words in both languages. I implemented Bilingual Word Detectives in a 2<sup>nd</sup> grade bilingual classroom and sought to give students tools to use when decoding word meaning in Spanish and English. I focus on three word decoding activities. First, in the Prefix Detective activity, students searched and analyzed prefixes with the same orthography and meaning in Spanish and English. Second, in the Cognate Hound activity students looked for words with the same meaning and similar spelling, cognates, in Spanish and English. Finally, through Vocabulary Mapping students assessed their awareness of the common roots and meanings of words. These activities had three goals: 1) improve word decoding skills in Spanish and English, 2) create a community of learners within the classroom and 3) lower students' affective filters while learning words in English and Spanish.

The data indicated that students were very enthusiastic about the activities and showed academic growth but a longitudinal study may be required to show growth in these skills.

## I. Introduction

In the current era of high stakes testing for schools, it increasingly became clear to me that schools and school administrators are less willing to house bilingual programs when the subgroup of English Language Learners (ELLs) is not scoring at the same level as their peers who speak only English (Parrish, Linguanti, & Merickel, 2002). It is expected that children learning to speak two languages will require more support and time than their peers, who speak only English. Native English learners have an advantage over ELLs because they have developed language skills that they can use to access content. Also, one would expect that students whose primary language is the same language as the test will score higher than a student whose primary language is not that of the test. Imagine that you have recently moved to Japan and will be required to learn Japanese while simultaneously learning biology. You will be evaluated on the same rubric as your Japanese peers. Regardless, tests are blind to these common sense notions and every child, and school, is graded on the same scale. For this reason schools with a high number of students who come to school with a primary language other than English tend to have low test scores. Under the No Child Left Behind (NCLB) mandate, low test scores mean sanctions for the schools and sanctions for the school mean greater stress to improve scores. This creates stress for administrators who are being pressured by the district and who in turn pressure teachers. Improvement and advancement is the main goal for teachers at my school site, and it seems a common goal for all educators, but under NCLB mandates, improvement is shown by the scores of one test. Under these

circumstances, the bilingual program at my school has to show not only appropriate academic advancement in the student's primary language but equal advancement in English. The Spanish bilingual teachers at my school are strengthening the student's primary language so that transferability to English will be smoother as they approach the third grade. This means that teachers and students have to wait for the payoff. My school's third grade bilingual teachers transfer ELL students completely to English by the end of third grade. Nevertheless, bilingual teachers have to administer standardized tests in second and third grade when many students are not at the level of their native English speaking counterparts.

It is under these circumstances and pressures that I decided to create this curriculum. The goal was to strengthen students' ability to decode words in their native language, Spanish, and to acknowledge that the knowledge students already have in their primary language will have great benefits in learning English. By the end of the curriculum implementation I wanted to show students that there are many similarities between Spanish and English and that their knowledge of Spanish will be an asset as they learn English. By validating their language, and therefore their culture, I hoped that students would lower their affective filter to speak more freely in English. However, validation is not enough. I also wanted to give students skills to take with them when encountering new words and use all of their resources in Spanish and English to try to decode that word.

While there are many reports that Latino students are performing quite poorly in language arts and are graduating high school at alarmingly low rates, there are several ways teachers can assist underperforming ELL students. For example, educators can

teach students new skills while accessing the prior knowledge that these students already possess. Fortunately, the Spanish and English languages have common linguistic ancestors and there are many similarities between the two languages. The clearest place to begin is with cognates. To make concepts more readily available to students, teachers should explicitly point out and ask students to seek out these words that have the same or almost the same spelling and the same meaning. A student may already have the concept of a word, just not the label for it, in their second language. It is particularly important because many Spanish/English cognates come from Latinate origins and are readily seen in academic language. Many second language learners struggle with the language register of the school and textbooks. Social, verbal communication in a new language may come first and is encountered more readily while the academic registers of school use more specialized language and are not accessed as often.

Another area that I chose to focus on was the area of morphological development. Morphology is the study of word forming elements in a language that carry meaning (Merriam Webster Online). California Content Language Arts standard 1.9 (English-Language Arts Content Standards for California Public Schools, 1997) states that second graders should know the meaning of simple prefixes and suffixes (e.g., over-, un-, -ing, -ly). Despite this standard, the current curriculum at my school does very little to address morphology. Because there are many prefixes in English and Spanish with the same spelling and meaning, I believe that this standard would be of particular importance and a huge resource for my bilingual students to help them decode words in both their primary and secondary languages.

Keeping with the focus of word decoding skills, I thought it would benefit my students to build metacognitive skills so that they know how to think about language and some of its intricacies. In particular I wanted students to be able to think about how well or how deeply they know a word and what steps to take to further their understanding of it.

Lastly, I wanted students to be able to apply these new skills and use them not only in the classroom community but in their surrounding community. These bilingual students already come with much knowledge about their primary language that needs to be tapped into but I also wanted to add to their store house of skills to be able to access text meaning by decoding words in Spanish and English. The overarching goal then is to have students who perform well in both languages. If a standardized test is to show the academic prowess of my students then I want to give them a tool box of skills to be able to do this in both languages. Charles Glenn (1999), professor of education at Boston University who served as a consultant on equal education opportunity for minority pupils for several states and the United States Department of Justice and Education, argues for bilingual education that makes use of a child's home language for support and supplementation. His study reviews the state of language minority students in Massachusetts and he makes recommendations to greatly improve language instruction for students. In particular he speaks of language programs for language-minority students that need to be high quality and should encourage students to be proficient in two or more languages. He also mentions that because of the vocational advantage of people with real bilingual competence, career and occupational education should strongly emphasize



bilingual competence (p 37). His review illustrates that, if educators show academic achievement in both languages and make explicit the greater connectivity of Spanish and English then bilingual programs may not be as scarce as they have become in the past few years: “real reform of bilingual education is not about suppressing languages or cultural traditions; it is about equipping children to function well in our schools and our society (Glen, p. 5). To have students who fluently navigate two languages and two cultures was my ultimate goal, and by providing these activities and skills, I hope to build one of the steps to achieve that goal.

## II. Assessing the Need for Language Instruction Among Spanish/English Bilingual Students

Students in California schools are under ever increasing pressure to achieve academically. In the current era of standards-based instruction, accountability and high stakes testing, evaluation of student learning and school performance tells the government which schools are succeeding and which schools are not (Lee & Luykx, 2005; Sleeter 2005; Cummins, 2000). State testing as mandated by the federal No Child Left Behind laws and sanctions placed on schools that do not show growth every year place pressure on school administrators and teachers to do what they can to raise test scores. This pressure translates into teachers who must increasingly teach to the test. Despite students arriving in classrooms with different levels of English proficiency, there is a need to get every student “up to standard level” when testing begins. Although it would be ideal for this to happen, there are some practical matters that do not allow for every child to be at or above standard when the time for standardized testing begins. Some of the issues that may keep students from performing at or above grade level standards are low socio-economic status, which include nutrition, stress, availability of literature at home, current school resources, and well prepared teachers. Monty Neil, Executive Director of the National Center for Fair and Open Testing, stated “Not only has the federal government failed to meet the social, economic, and health-related needs of many children, but NCLB itself does not authorize nearly enough funding to meet its new requirements.” (Neil, 2008). There are issues beyond academics and language that impact student performance and that are not taken into account when schools are assessed

for performance levels. In California forty percent of Latino students live in poverty as compared to fifteen percent of Whites. In my school, low incomes, second language learner Latinos are the majority and so they face the increased challenge that comes with poverty and with learning a second language (Mora, 2000).

There is also an added task for students who come to our schools with a language other than English: that of becoming proficient in their second language and performing to the same standards and at the same tested levels as their monolingual counterparts. These English Language Learners (ELLs) are faced with many individual and school factors affecting their academic success at school. Amongst these are educational history, language and literacy ability in their native language, socio-cultural backgrounds, educational placement and instructional context (Francis, Rivera, Lesaux, Kieffer, & Rivera, 2006). To further augment the pressures of ELL students, the 1998 implementation of Proposition 227 mandated that all children in California public schools shall be taught in English and required that all children be placed in English-language classrooms. The proposition states that “Children who are English learners shall be educated through sheltered English immersion during a temporary transition period not normally intended to exceed one year” (Proposition 227 Full Text of the Proposed Law, 1998). Although there is strong research that supports bilingual education for students with a primary language other than English (Glenn, 1999; Bialystock, 2007; Cummins 2000; Latham 1998; Lee 1996; Mora 1998), proposition 227 has made it difficult to ensure the optimal biliterate, bilingual and bicultural education for ELL students (Lee & Luykx, 2005).

Principals, and therefore teachers, are under pressure and accountable to have all students perform proficiently on standardized tests printed in English. In addition to Proposition 227, the federal mandate No Child Left Behind (NCLB) requires that all students score at least “proficient” on standardized tests by the end of the 2013-14 school year or the schools in which those students are enrolled will face sanctions. Together, Proposition 227 and NCLB help contribute to the feeling for administrators and teachers that there is not time to learn any language other than the language of the test, English, and that primary languages are of little importance because they will not help students to achieve academically or perform well on standardized tests. Because of these specialized conditions, it is not surprising that primary language instruction has significantly diminished in Californian schools (Olson, 2007).

However, even in the mandate-driven environment in which schools operate, there are still some schools that manage to maintain bilingual programs. ELL student are one of the main groups targeted for improvement under NCLB testing. Because of this pressure bilingual programs are turning to increased English time despite theory that suggests that a firm grasp of one’s primary language will help the transition to English (Olson, 2007; Maxwell-Jolie, 2000; Cummins, 2000). Low test scores, high drop out rates in high school and low socio-economic status make it clear that the current language curricula for ELL students is not adequately supporting bilingual learning to provide the skills necessary to transfer student’s primary language skills and knowledge to English in a way that shows great improvements on standardized test. To support authentic learning and proficient performance on standardized tests for ELL students, a new curriculum is

needed that uses a student's primary language as a resource to be maintained and as an asset to be capitalized on for the acquisition of English.

*A Growing Population, City, State, and Nationwide*

*National data.* The 2006 United States population census estimated that there were nearly 44.3 million Latino people living in the US, comprising 14% of the total U.S. population (U.S. Census Bureau, 2007). The United State's Latino population is growing faster than all other groups (50% since 1990) and is expected to continue to grow rapidly because of high immigration, high fertility rates, and the youth of the current population (Rodriguez, 2004). As the Latino population grows, the number of students who come into schools with Spanish spoken at home is increasing.

*Statewide data.* The demographics of California are changing rapidly. In 2006, 44.4 percent of the population was born in Mexico (U.S. Census Bureau, 2006) and of the total population of Latinos in California, 28.4% spoke Spanish in the home. Of the ELL students who constituted 25% of the school population and whose main language was Spanish, 20.1% spoke English less than "very well" (California Department of Education, 2005). Since then, the percentage of students whose primary language is Spanish has continued to rise. This lack of proficiency in English may have wide implications in students' ability to access information and in their academic success.

*San Diego data.* The local schools in San Diego are a reflection of the changing demographics of both the state and country, but because of San Diego's proximity to the Mexican border and of the rich history Mexicans have in San Diego, the city has a greater Latino population than do other areas of the United States. In San Diego County, 30.1%

of the population is Latino (of any race). In the school where I teach, 56.3% of our students are Latino (Lexington School Accountability Report Card, 2007).

In the past ten years, San Diego County has undergone a sizable demographic change. Not only has student enrollment overall increased by 9.8%, but Latino students have increased from 145,000 to 212,000 from the 1995-1996 to the 2005-2006 school year, an increase of 45.7%. The proportion of students who come to school who are not English proficient has increased by 23% in the past ten years (Latino Summit, 2007). Even in a mandate-driven climate, this population is too large to ignore and curricula must be developed to meet their needs.

#### *Gaps in National Reading Proficiency Levels for Latino Students*

While the Latino population is growing in US schools, the US language curricula have not kept pace (Miele, 2007). Reading achievement data does not show a very favorable picture for the Latino population which calls the effectiveness of current curricula into question. A score of 500 is the total possible points in reading on the National Assessment of Educational Progress (NAEP). Latino students are reported as having an average scaled score of 197 according to the National Center for Educational Statistics (NAEP, 2007). This score is 30 points below the White subgroup, the highest achieving group. Latino students are ranked as the lowest subgroup. The scores of Asian/Pacific Islanders, Black, and Unclassified students follow the scores of White students. Latino students share the bottom rank with American Indian students. Louisa Moats, the director of the National Institute of Child Health and Human Development, said this of the national reading proficiency: "Poor reading has become more than

national news: It is a national crisis, an epidemic in the urban landscape” (Moats, 2001). Educators need to analyze what is preventing these students from achieving to ensure that they, as all other students, are well prepared to progress through the school system and move beyond school to pursue purposeful lives.

### *Gaps in Reading Proficiency Levels for California’s Latino Students*

When we look at the test scores of those students who are classified as ELLs and compare them to non ELL students, we find a similar trend in California reading test scores. The scaled score for reading was 184 for ELLs while it was 220 points for non ELLs. Scores for California state vocabulary achievement tests illustrate a gap as well. Because vocabulary is such a critical component of literacy, educators of English Language learners need to be aware of how to best teach vocabulary to their ELLs. On the California State mandated Standardized Testing and Reporting Program (STAR) test, English Language Learners are scoring 36.9 percentage points below the highest scoring group. Latino students scoring at the proficient level in English Language Arts is 27.4 percent (California Department of Education Achievement Gap Fact Sheet, 2007). This percent is the lowest of all the subgroups.

### *Socio-Economic Gaps among Latino Students*

Linked with academic gaps are socio-economic gaps among Latino students. There are some startling findings regarding the gap between low socio-economic status (SES) students and high SES students concerning vocabulary in particular. Hart and Risley (1995) found that the average three year old child from a welfare family hears

about 3 million words a year, while a child from a professional family hears 11 million words. By the time low-SES students are four years old, the gap has increased from 13 million words in welfare families to 45 million in professional families. Similarly, Graves and Slater (1987) found that first graders from high SES families know twice as many words as lower SES children. It is important to recognize this gap to note that students do not come into schools on equal levels and some blocs of students have disproportionate gaps. While the curriculum of a school district may match and be at the level of more affluent students, students in lower SES neighborhoods will struggle with it. Students need a literacy background to access all content areas in school. This gap in vocabulary proficiency will have profound effects on a child's success in school if it is not closed.

In the 2007-2008 school year, my school had the highest number of students in free or reduced lunch status of the 29 schools that our district serves. Free and reduced lunch eligibility is determined by federal guidelines of household size and income. The lowest income students receive a free lunch, while those just above them receive reduced price lunches. This type of data is used as an indicator of poverty. In a school where most families do not live in single family homes but in apartments, 86.9 percent of our students received free or reduced lunch. Out of our enrollment of 687 students, only 33 were denied free and reduced status. Thus, the majority of students at my school, (54.6% of whom are Latino) are living in poverty. Students living in poverty have less access to information through books, travel, television and internet. Consequently, our school is populated by students who may not have the same background knowledge and background vocabulary as some of their more affluent peers. Hoff illustrates the effects of this disparity.



The effects of socioeconomic status (SES) on vocabulary development are small at the beginning of language development, but these effects grow larger over time and always show that children of more educated parents have larger vocabularies than children of less educated parents (Fenson, et al., 1994; Hart & Hinsley, 1995; Hoff-Ginsber, 1998a) (Hoff, 2001).

Many of the students in the bilingual program in which I teach come from recently immigrated families and households in which the parents have varying degrees of education. Because they live in the neighborhood where our school is located, it is highly likely that they are living in poverty. For our students it is necessary to not only overcome the possible effects of a low SES standing on competence in their second language and vocabulary development in their mother tongue. What begins in earliest childhood and is perpetuated through K-12 can affect educational outcomes and possibilities for Latinos well into the future. Teachers at my school need to concentrate on vocabulary instruction and skills to offset the low vocabulary development correlated with low SES. Bilingual teachers need to further concentrate on vocabulary words and skills that will benefit both languages.

#### *Gaps in the Attainment of Degrees among Latinos Nationwide*

Of the top three racial groups in the United States, there is great disparity when comparing the educational attainment of Latino and Black minorities to the White group. Latinos have the highest percentage of adults ages 18-65 who do not graduate from high school and almost twice as many adult Latinos do not graduate from high school as

compared to their White and Black peers (Latino Summit, 2007). Additionally, the proportion of Latinos who enroll in and graduate from college is of concern. The lack of Latino students furthering their education beyond high school is worrisome. When considering the high school-to-college “pipeline” of California students, data (Latino Summit, 2007) shows how 539 ninth grade Latino students would fare if they continued their education beyond high school (See Figure 2). Only 328 of those ninth graders would graduate from high school. Sixty three would go on to a community college while 26 would attend a California State University and only 11 would go to University of California institute. The number of Latino students that graduate from the CSU system drops down to 17 while only 9 graduate from a UC school. For many reasons, some of which include the low performance in language arts standardized tests, Latino students have little chance of making it into the university system (Miller, 2005; Rivera-Mosquera, Phillips, Castelino, Martin, Dobran,, 2007). According to the California Postsecondary Education Commission (2004), only 4.8% of Latino high school students graduate from a California State Universities or University of California school. Since the Latino population in California schools constitutes 48.1% the proportion of Latinos going on to higher education does not represent the total population of Latinos. At some point in the K-12 system, Latino students decide that college and university life may not be for them because of economic, academic or social issues and as a result we see fewer Latino college graduates and therefore fewer Latino leaders in an increasing Latino population.

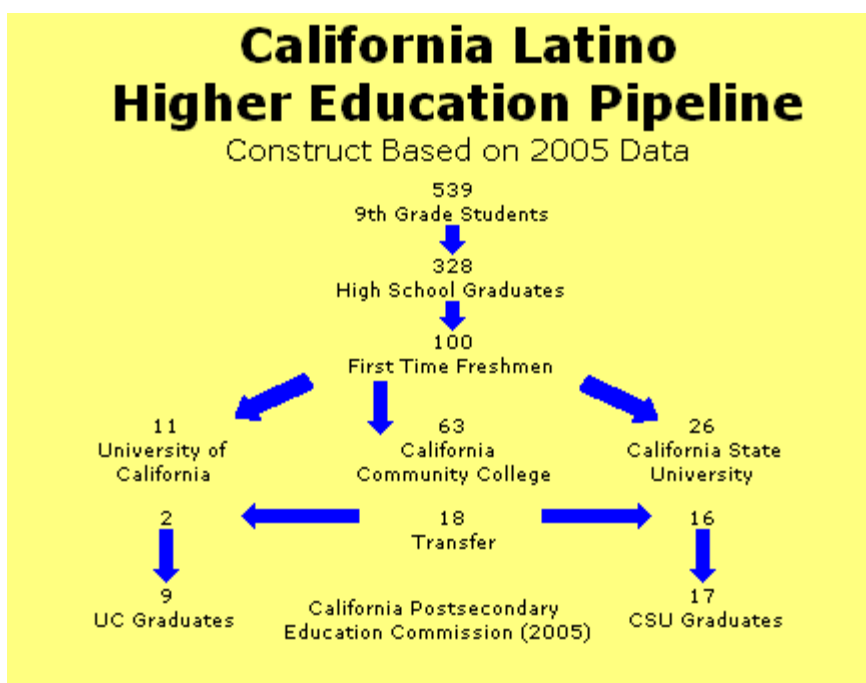


Figure 1: 9<sup>th</sup> grade students who proceed to graduate from a UC or CSU University.  
Source: California Postsecondary Education Commission (2005)

### *Latino Achievement Gap in the San Diego County Area*

Bilingual programs in California have been steadily declining in number and the great majority of English learners are taught in English. Only 10 percent of students who come to the classroom with a language other than English as their main language are taught in a bilingual program. This is troubling because of research studies that have found that bilingual students would benefit greatly from a program that would strengthen their primary language as well as use its assets to spring board into English.

If we look at the Latino students in the San Diego county area who are performing at an advanced or proficient level on standardized tests, we see that compared to the

English Only (EO) students, Latino students score about half the points of their English counterparts (See Figure 4). With such low performance levels, it is easy to see how this has an impact on Latino student's education beyond the 9<sup>th</sup> grade. It is also interesting to note that Latino students are scoring at the same level as low income students consisting of Latino and non-Latino students.

## California Standards Test English/Language Arts Percent Proficient and Advanced

San Diego County	2006			2007		
	*EO/ Fluent	Low Income**	Latino	*EO/ Fluent	Low Income**	Latino
<b>Grade 2</b>	<b>64</b>	<b>33</b>	<b>33</b>	<b>65</b>	<b>34</b>	<b>35</b>
<b>Grade 3</b>	<b>54</b>	<b>23</b>	<b>24</b>	<b>56</b>	<b>25</b>	<b>26</b>
<b>Grade 4</b>	<b>69</b>	<b>37</b>	<b>38</b>	<b>71</b>	<b>39</b>	<b>40</b>
<b>Grade 5</b>	<b>61</b>	<b>31</b>	<b>31</b>	<b>65</b>	<b>32</b>	<b>33</b>
<b>Grade 6</b>	<b>59</b>	<b>29</b>	<b>29</b>	<b>61</b>	<b>31</b>	<b>32</b>
<b>Grade 7</b>	<b>61</b>	<b>30</b>	<b>33</b>	<b>63</b>	<b>34</b>	<b>35</b>
<b>Grade 8</b>	<b>57</b>	<b>26</b>	<b>28</b>	<b>57</b>	<b>28</b>	<b>29</b>
<b>Grade 9</b>	<b>57</b>	<b>28</b>	<b>30</b>	<b>61</b>	<b>32</b>	<b>35</b>

Source: California Department of Education (Sept. 2007) \*EO = English only, \*\*Socioeconomically Disadvantaged

Figure 2: Percent Proficient or Advanced Students in English Language Arts  
Source: California Department of Education (Sept. 2007)

### *Addressing the Latino Achievement Gap in California*

The gap in achievement between English only and language minority groups is an issue that has gotten wide coverage and special attention by the California State Superintendent of Public Instruction, Jack O'Connell. In an August 15, 2007 press release, he analyzed the results of the 2007 Standardized Testing and Reporting program (STAR) when reporting at the Achievement Gap Summit. The summit is a gathering of business, labor and community leaders, to examine factors relating to the causes of the achievement gap and strategies for closing the gaps. Although the release referred to the hundreds of thousands of students making improvements or holding steady in these tests, the Superintendent also issued a poignant statement about the disturbing data related to

the achievement of Latino students when he stated that the results "... also show the persistent achievement gaps in our system that California simply cannot afford to accept morally, economically, or socially" (Department of Education News Release, 2007). In the bottom ranks of achievement are the Latino and African American students. In regards to students' proficiency in English Language Arts for the 2006 California Standardized Testing and Reporting (STAR) state test, Latino students ranked at the bottom, with 27.4 percent scoring at the proficient level. Among socio-economically disadvantaged students, Latino students ranked just above African-American students, with a percentage of 25.3 scoring proficient in language arts assessments (Achievement Gap Fact sheet, 2007).

O'Connell reiterated his deep felt commitment to closing the achievement gap in a statement on his website regarding the California Achievement Gap Summit in Sacramento:

This summit will bring together educators from across the state to address a major crisis facing public schools in California and throughout the nation: the systemic gap between our highest- and lowest-performing students. In an effort to narrow this achievement gap, teachers, administrators, policymakers, and others are invited to hear from experts as well as to propose workable solutions for improving academic achievement for all students. This issue is a critical one for Californians. (STAR Results Showing Encouraging, Troubling Trends, 2007)

Due to the overwhelming response to attend this summit, registration for it had to be closed early, indicating that this issue is attracting great attention in California.

*Addressing the Latino Achievement Gap in San Diego County*

While 47.8% of Latinos are English learners, varied types of programs are serving these students. However only a small portion of English learners are enrolled in bilingual programs. In San Diego County for the 2006-2007 school year, districts report that only 13.4% of English learners are taught in bilingual programs (See Figure 2). That is a 7.6% drop from 21% just two years prior. Statewide, the proportion decreases to 6.7%. The majority of these students are taught in classes "...where instruction is almost exclusively or completely in English, Structured English Immersion (SEI)... (which in most districts is indistinguishable from the regular mainstream classroom)... " (Latino Summit, 2006). This underutilization of a student's primary language is a concern because students who have a firm foundation in their primary language will have more metalinguistic skills to deploy while learning English. Primary language instruction not only validates a student's culture and language, but also provides a firm foundation from which English acquisition can more easily be accessed.

To address the language and other concerns of Latino students the county of San Diego has instituted the Latino Summit, a gathering for parents, kindergarten through 12<sup>th</sup> grade teachers, administrators, educators and community members. Attendees congregate each year to discuss the accomplishments of the Latino students in the San Diego County schools. In a report for the XII Latino Summit in 2007, trends were noted for the 214,369 Latino students in San Diego County schools. The reports for the 2007 summit showed a bleak report of low success rates for Latino students in the school system. Specifically the reports documented low levels of achievement on California Standards Tests (CST). Sixty four percent of English-only fluent are proficient and advanced in the CST language arts portion of the test compared to 33 percent of Latinos. The report also

documented low high school graduation rates for 2006. Sixty two percent of Latinos graduate while the average rate for San Diego County is 71 percent. Of the Latinos that do graduate high school, 42 percent go on to college. In contrast, the Asian subgroup has the highest college going rate with 69 percent of high schools graduates continuing on to college (Latino Summit, 2007). Latino students ranked in the lowest levels in reports for state standardized test, graduation rates and college going rates.

### *Addressing the Latino Achievement Gap Districtwide*

In my school district, there is consensus about the need to incorporate more direct instruction in the transfer of language skills from Spanish to English in our bilingual program. Our adopted Hampton-Brown English Language Development (ELD) curriculum (Hampton-Brown, Avenues, 2003) was not meeting all the needs of our students matriculated in bilingual programs because it did not make use of students' primary Spanish language (L1) background to help build their acquisition of their second language (L2), English. In an effort to add this support to our bilingual instruction, our district bilingual administrator designed a pacing guide to delineate how much time and in which content areas teachers should be infusing the L1 to L2 transfer lessons. In meetings during the 2006-2007 school year, the bilingual teachers in my district gathered to see where these lessons could be infused into the *Lectura* Spanish Language Arts curriculum (Houghton Mifflin, *Lectura*, 2003). Teachers listed lessons in which skills in the *Lectura* curriculum could be matched with skills in the ELD curriculum. They picked one exemplary lesson for each grade level. However, there was insufficient follow up to the meeting. Teachers did not receive much information on additional lessons and the



inter-school communication within the district was limited. While the focus of these meetings--to examine how to support transference of skills from one language to the other--was a greatly needed discussion area, the lack of further communication and training on these skills did not facilitate the advancement of these skills in our teaching.

*The face of an Early Exit Bilingual Program.* I am a teacher in an early exit bilingual program. In this program students are transitioned to taking all of their instruction in English by third grade. The main goal of the early exit program is to give students a foundation in their primary language, in this case Spanish. After three years of instruction mostly in Spanish, Spanish instruction is transferred to English, so that by the end of third grade 100% of students' instruction is in English. The focus on English Language Development (ELD) through these bilingual years is provided in the following manner:

- \* K student receive 30 minutes of ELD instruction each day
- \* 1<sup>st</sup> and 2<sup>nd</sup> grade students receive 45 minutes of ELD instruction each day
- \* 3<sup>rd</sup> grade is the transition year in which the acquisition of English is expedited.

The percentage of class time during which English is used in the classroom gradually increases until it reaches 100 percent at the end of the year.

Although most of the teachers at my school have a very strong personal commitment to the retention of the students' Spanish language, by third grade, the focus is on English and the instruction is only in English. Many experts (Collier, 1987; Cummins, 1991; Hajuta, Butler, & Witt, 2000) agree that it requires between four to seven years to reach equivalent grade level in academic and literacy achievement. Despite this, the early exit program hopes to expedite this achievement time. Students in

my school come from various levels of exposure to English and do not all begin the bilingual program in kindergarten. For this reason, there is a wide range of English language levels as well as social and educational experiences that affect the students' ability to acquire English. Because of these variables, there is a great need to accentuate the positive transfer of the Spanish language to aid in the acquisition of English. There is also a need to focus on the considerable similarities between English and Spanish to foster proficiency in English. This focus is an important one, since these similarities will help strengthen the comprehension of text in Spanish and English, and raise test scores in language arts and other content areas.

*Working with cognates.* Although English is difficult for recent arrivals who have had little contact with English, it is fortuitous that the English and Spanish languages have many similarities. These similarities in roots and affixes should not be ignored. For a large part of the curriculum adopted by our school district for bilingual students, there is a minimal amount of time and few lessons dedicated to instruction related to cognates and transference of skills from Spanish to English. It is estimated that nearly 25% of all root words and cognates in Spanish and English are shared (Deal, 2005). If this proportion of words in the two languages come from a common origin, it makes sense for instruction to focus on these words as a significant springboard to language acquisition.

There is a great deal of richness in the Spanish language that can be transferred to the English language. The two languages are more similar than may be expected. English and Spanish share many words of Latin and Greek origin, which facilitates meaning and spelling transferability between them. According to Merriam-Webster's Vocabulary

Builder (1998) of the English language, Greek and Latin have been the sources of most of the words: “Spanish is a Romance language that although had many influences, originated in Latin. Because both English and Spanish share these Latin origins, they have a great vault of roots words, affixes and cognates, words that look alike and have the same meaning, that span both languages.” These similarities should receive more instructional focus in order to improve the academic achievement of our Spanish speaking students. That is, by looking at the knowledge of language that Spanish speaking students already have, and using it to help students see the connections to English, the acquisition of English can be expedited.

*Effectiveness of the Early Exit Bilingual Program.* How are students at my particular school doing on the Language Arts section of the California STAR examination? Based on the 2005 scores reported on the California Department of Education page, of our school’s second grade students, including students in the alternative bilingual program, five percent of our students scored at an advanced level, 24% were proficient, 26% were basic, 23% were below basic and 22% were far below basic. In the top two levels then, 29% of our students are proficient or advanced. When comparing these scores to the SABE2, the California Designated Primary Language Test (DPLT), interesting data emerges. This test is administered in Spanish and more accurately shows the advancement of our Spanish-speaking bilingual students by disaggregating the effect that the English language has on the STAR test. Because the SABE2 is reported by Reference Percentiles Rank (RPR) and the STAR is reported by percentage for Advanced, Proficient, Basic, Below Basic, and Far Below Basic categories, it is difficult to make a direct comparison. We can say however, that 54% of

our second grade students scored above the 75<sup>th</sup> RP and 74% scored above the 50<sup>th</sup> RP for the SABE2 (California Department of Education, 2007). This marker is of significance because it indicates that more than half of our students are doing better than the 75<sup>th</sup> RP in California. Our bilingual students are faring well when assessed in their primary language. These are important facts to keep in mind when considering the transferability of Spanish to English, since strong primary language skills form the basis for similar proficiency in the second language (Mora, 1998).

My school is a Title 1 funded school, a school in which 40% or higher student population of families are defined as low-income by the United States Census. Schools that are Title 1 funded are regulated by the federal legislation. Because my school has also been under Program Improvement for the past four years due to test scores not improving for two consecutive years, our school was often visited by state officials and we were required to teach the curriculum exactly as written. The assumption was that if teachers teach the curriculum in the sequence, manner and form prescribed by its writers, student achievement will be greatest.

Vocabulary instruction is presented in the curriculum two times per story cycle and explicitly directs teachers on what to teach. Before teachers read a story in the reading book, students are taught to look at the key words and review these words on a workbook page. Secondly, teachers “touch upon” other vocabulary words within the curriculum as the teacher and student construct “webs” of ideas and words related to the story of focus. In the margins of the teacher’s guide, teachers are provided with sets of words found in the text but are given no explicit instruction as to how to teach them.

During the first two years of teaching with this curriculum, my second grade

teaching colleagues and I found that vocabulary scores were quite low, presumably because we taught vocabulary in the way that was described in the teacher's guide. In the 2004-2005 school year, the percent of second grade students that scored at or above the benchmark for the six vocabulary tests were as follows: 16%, 16%, 28%, 41%, 55%, and 42%. Only on the fifth test at the end of the year did students score above the 50 percent mark. Our goal was 80 percent or higher. The following school year, teachers at my school decided to analyze the tested vocabulary words. We wanted to know the exact location of tested words in the textbook or the workbook so that we could explicitly point them out to students while reading. We found that the words tested were not always the same vocabulary words that were addressed in the teacher's guide. Our view of how to teach vocabulary changed from following the curriculum to actively searching for high level words and locating the words that were tested in the textbook and/or workbook. We decided that explicitly teaching the words on the test was not "teaching to the test" if the vocabulary words from the curriculum were taught along with other important words from the curriculum. Even though our students' scores did improve in the past three years, the vocabulary scores have never passed the 80 percent proficiency line on any of the six tests given every year. The closest we have come is 63 percent. Despite many efforts to include a variety of techniques, including use of vocabulary maps, vocabulary games and explicit instruction on the words, we still see a discrepancy between our teaching efforts and students' scores on the tests. What can teachers do to close this gap and what is holding our students back?

One thing that current curriculum is lacking is ways for teachers to help students make explicit connections to the similarities between Spanish and English vocabulary.

Students in my school's bilingual program fare slightly better than students in the English-only classrooms when they are tested in their native language. Therefore, standardized tests are not showing student's knowledge of vocabulary content but the knowledge of the English language. To respond, teachers need to teach specific word decoding skills in both languages to our Spanish-speaking students. By teaching them the linguistic similarities between the languages, bilingual teachers would give their students a necessary tool to decode word meaning in both languages. If bilingual students are taught metalinguistic strategies to decode languages using their primary language, they are using that language as an asset, a storehouse that can be tapped into to decode any subsequent languages they wish to learn.

### *Assessing the Mandates*

According to brain and cognitive research (Baker, 2000; Bialystok 2007; Gonzales, 1999), studies show that there are no ill effects of knowing and learning a second language. While Proposition 227 (1998) mandated English-only instruction for English Language Learners, it seems "...that the political battles concerning bilingual education have obscured important research demonstrating a link between balanced bilingualism, which involves becoming equally proficient in both languages, and cognitive gains—especially in terms of increased metalinguistic awareness." (Chipongian, 2000, pg 1). Despite these research findings and the Proposition 227 mandate that parents sign a waiver to have students in bilingual classrooms in 2006-2007, only 6 percent of English Learners in California students have access to bilingual programs (Latino Summit, 2007, p 15). Parents must sign this waiver every year to

ensure their child stays in a bilingual program (Mora, 1999). While Latino students make up the largest percentage of ELL students in California, 47% are enrolled in structured English immersion classrooms in which they do not receive additional services to aid them in the acquisition of English (California Department of Education Fact Book, 2007). In turn, Spanish-speaking Latino students are not performing at proficient or advanced levels in standardized tests, are graduating high school at alarmingly low rates and are attaining higher education degrees at much lower rates than the average American.

I came to the United States when I was ten years old. Despite being placed in the average classes and college preparatory rather than honors or advanced placement courses due to my lack of English, teachers commented several times on my proficiency with academic vocabulary while speaking and writing. Although I did read a bit as a child, I believe that I remember their comments because often the words I used were words that were common in Spanish but categorized as high level academic words in English. During this time I knew that I had to adapt to the schools in order to succeed. There was no attempt by the schools I attended to make use of my first language, Spanish, as a springboard for me acquire the academic register of the second language. I had to work with the metalinguistic examples that I got from my family and my Spanish-speaking peers to figure out the register of the school. I believe that it is because of my bilingual, biliterate and bicultural background I was able to achieve academic success both in Mexico and in the United States.

As a Spanish/English bilingual educator I feel that learning and navigating through two languages is an additive process not a reductive one. Bilingual students

should be urged to keep this added resource, a language other than English, maintain it and use it to help in the acquisition of English. Teachers need to look at the gaps in our curriculum to see how to facilitate language acquisition in both languages. If a student is given enough time to flourish in two languages, this student will have more net gains than a monolingual student and can access and cast a wider linguistic and cultural influence. In this era where information crosses boundaries and borders through cyberspace, being able to navigate through it speaking, reading, writing, and understanding the second (English) and fourth (Spanish) most spoken languages in the world should be a great advantage (Gordon, 2005).



### III. Relevant Educational Research Findings on Best Practices for Language Instruction

The road to semantic competence, as measured by a test or by society, is a long one. Given the right circumstances, it is a road that steadily ascends as time goes by. In a bilingual program, some of the factors needed to help students understand word meanings include a solid and well-balanced language arts program at school, wide reading outside of school and valuing a student's primary language in education. A bilingual person has the added advantage of being able to access knowledge within and across the two languages. Spanish/English bilingual people benefit from the common origins of the two languages such that many words have similar elements and meanings. Languages connect to one another when the languages have similar historical roots. When this happens, students can transfer knowledge of element meanings from one language to another. Because of this resemblance, transferability of parts of words and language skills aid in the development of a more robust vocabulary in a student's primary and subsequent languages (Mora, 2007).

An extensive vocabulary is regarded as a sign of education, intelligence and competence. Beyond the value vocabulary is given by society and educational institutions, knowledge of vocabulary allows for access to information and personal understanding. Because a limited vocabulary serves as a gatekeeper for access to information, it is important for students to acquire skills to decipher uncommon words and be able to make them part of their lexicon. As a teacher in an early-exit bilingual program, I have observed that it is of the utmost importance that teachers instruct students in the transfer of word deciphering skills and cognates from Spanish

to English. These skills include making use of morphological elements in words to decode them, using known words in Spanish as a springboard to understand words in English (cognates), and having students become metalinguistically aware and decide how well they know vocabulary words and access skills they have for decoding unknown words. By teaching these skills, educators can prepare bilingual students to use their primary language as a resource when they enter English-only classes and work on acquisition of a second language. Mastery of academic vocabulary is arguably the most important determinant of academic success for individual students (Francis, Rivera, Lesaux, Kieffer, Rivera, 2006). Other factors such as motivation and lowering students' affective filters are also quite important because these underpinnings are aspects of an environment that will promote language learning and acquisition. This review of research will survey the implications of bilingualism and vocabulary, socio-economic status and vocabulary, cognates in science curriculum, and the importance of teaching morphology. It will also review the implications of constructing a community of learners and discuss how lowering the affective filter influences students' academic participation and achievement.

### *Bilingualism and Language Development*

Research findings on the effects of bilingualism and literacy development are mixed. I will begin by looking at the literacy implications for students working toward bilingualism. How does bilingualism affect the literacy development of a student? There are not many easy answers that speak to the effects of bilingualism and literacy development.

According to Bialystok (2007), "...bilingualism is clearly a factor in children's development of literacy, but the effect of that factor is neither simple nor unitary." (p 45). The relation between bilingualism and the understanding of concepts of print sometimes cite an advantage for bilingual students (Bialystok, 2007; Carlson & Meltzoff, 2008). However, a disadvantage is often cited with respect to oral language competence but advantages in metalinguistic concepts for bilingual children (Charkova, 2005; Galambos & Goldie-Medow, 1990; Cromdal; 1999). Bilingual students then may not have the oral language proficiency as their peers but they have a greater storehouse of knowledge about how language works.

One of the main issues researched in regards to bilingualism relates to the weak language skill development of the second language. Standardized tests inform students, parents, teachers, administrators and the nation of the students' competency in a language and discuss several language components. The areas tested in English Language Arts by the STAR (the California Standards Test) are word analysis, reading comprehension, literary response and analysis, writing strategies and written conventions (California Department of Education, 2007). A student who performs below standard on the STAR test is considered to have weak language skills. The group of students who are most noted as having weak language skills are Latino students who acquire English language literacy at school, rather than at school and at home. These students often have a fragile command of spoken language skills in their second language and often achieve lower levels of reading competence than their English-speaking peers (August & Hakuta, 1997). They require between four and seven years to reach grade-level standards in academic and literacy achievement as opposed to students who are native English speakers (Collier,

1987; Cummins, 1991; Hakuta, Butler, & Witt, 2000). Just as with the natural development of primary or subsequent languages, the oral language skills of these Latino students are often better than their literacy skills but still lag behind monolingual peers. It is estimated that it will require two to five years to achieve age norms (Bialystok, 2007). Consequently, Latino students are at great disadvantage in trying to catch up. They are not only faced with the task to conquer a language that is not native to them but also to gain academic competence at the same rate as their English only peers. It seems a daunting task, and more so when factors beyond the classroom walls are taken into consideration.

#### *Socio-Economic Status and Vocabulary Development*

It is not only the language skills of the Latino students that affects their achievement rate. A student's socioeconomic standing also has an effect on their academic achievement. Socioeconomic status is defined as "an individual's or group's position within a hierarchical social structure. Socioeconomic status depends on a combination of variables, including occupation, education, income, wealth, and place of residence. Sociologists often use socioeconomic status as a means of predicting behavior" (Answers.com, 2007). Opponents of bilingual education say that Latino students are not succeeding academically, and point to their achievement on as on standardized tests as data for this argument. However, there are other factors that can affect poor academic performance. Oller and Pearson (2002) state that

since poverty is common in language-minority students, and poverty is associated with low educational levels in parents, poor nutrition, domestic violence, a sense of diminished status and self worth, and lower levels of linguistic stimulation than are available to children of higher socio-economic status (p 6).

Therefore it may not be a student's first language per se that is not allowing for the academic success of these students. Rather, there often are factors beyond a student's first language that also affect the academic performance of language minority students and further aggravate the acquisition of a second language. In my particular school, the socio-economic status of our bilingual students has a great impact on student's lives and often on achievement. In general, bilingual students and teachers receive textbooks and other materials printed in their native language at later dates than English-only students. Bilingual teachers are often translating and working double-time to keep parents and children informed about events at the school as well as educational opportunities such as assemblies, clubs and extra curricular activities. Bilingual students often do not take advantage of extra curricular activities for fear of not understanding instructions or directions because of their low English skills. Because my school has an early-exit bilingual program, the status of a students' mother tongue is a placeholder before they are "re-classified" as "English proficient" and able to navigate in an English only classroom. Unless a student is in the bilingual program, a student's native language is not explicitly accessed again by our school past the third grade.

Upon considering the effects of socio-economic status (SES) on English Language Learners (ELLs) there are some interesting findings. A study by Krashen and

Brown (2005) shows that high-SES English language learners outperform low-SES fluent English learners on math tests and do just as well on reading tests. They concluded that for ELLs, SES can offset the effects of language proficiency on standardized tests of math and reading. Students reported that they came from a home in which only Spanish was spoken. There is no information about the amount of time the students had been in the U.S. and had exposure to English. In the summary, they indicate that in three studies they analyzed, high SES English Language Learners did well. In two math studies high SES English Learners outperformed low-SES fluent English proficiency (FEP) students. In reading comprehension they performed better in some cases, equal in others and slightly worse in others (p.2). The study then suggested that schools can do something to level the playing field for ELLs by providing aspects of high SES that are known to impact school outcomes. They suggest this can be done by improving the print environment of the classroom and by providing bilingual education (Krashen & Brown, 2005). These researchers outline three factors to explain why high SES has such a high payoff in academic achievement. First, students who come from high SES backgrounds before coming to the U.S. will have typically had age-appropriate education in their primary language, which will provide background knowledge for their education in their new language. Second, higher SES parents typically attain a higher level of education and are more able to help their children with schoolwork. In addition, recreational reading is modeled most frequently, families tend to have a more print rich environment at home and live in neighborhoods with better access to books, leading to more reading in homes with higher socio-economic status (Krashen, 1993). For low socio-economic status English Language Learners, bilingual education will "...be of great help (to students)

who lack this background by providing experiences through the first language in the form of subject matter teaching and literacy development in the first language” (Krashen & Brown, 2005). Furthermore, students who are good readers in their first language will have better background knowledge and reading strategies because these skills can be directly applied to the learning of a second language. Krashen and Brown also note that vocabulary knowledge in both languages improves as a result of experience with the second language.

The students at my school have the lowest SES of the district’s 29 schools. Consequently it is my job as a teacher to try to offset the impact of low SES. As a bilingual teacher, it is my job to find the best way for students to access knowledge in their first language as well as their second language.

Proctor, et al. (2006) conducted a study on 145 4<sup>th</sup> grade, Spanish-English bilingual students to explore the effects of Spanish language alphabetic knowledge, fluency, vocabulary knowledge, and listening comprehension on English reading comprehension. They discuss the similar psycholinguistic and metacognitive traits that bilingual and monolingual students bring to reading English. However they found that there is a feature present in those bilingual students with unequal aptitude in both languages: at some point, they will learn to read in a language in which their proficiency is limited. Because one language will be weaker than the other, the stronger language has a great potential to influence the second language. The primary language will influence the attainment of the second language by incorporating resources the students already has in the primary language. Skills that can readily be transferred from a Spanish-speaking

student learning English include concepts about print, word structure, vocabulary knowledge (cognates), text structure, skills and strategies to comprehend text, etc.

### *Metalinguistic Awareness*

One of the advantages that many researchers believe that balanced bilingual or multilingual students possess is metalinguistic capabilities (Bialystok, 1988, Cummins, 1978, Hakuta & Diaz, 1985, Latham, 1998, Lazruk, 2007, Lee, 1996). Balanced bilingual students, those that are proficient in both languages, understand the structure and function of language more explicitly. They also argue that balanced bilingual students have a heightened mental flexibility and creative thinking skills among other cognitive advantages. Therefore, it seems prudent to take this metalinguistic advantage and work with my Spanish, English bilingual students to find and refine this skill to aid in their language acquisition.

Learning to read is a fundamentally metalinguistic process (Mattingly, 1984; Nagy and Anderson, 1999 as in Kuo & Anderson, 2006). As children begin to learn to read, they form metalinguistic awareness when they learn that abstract symbols are given certain sounds and these sounds together form words that contain meaning. Because of this awareness, a critical component of language acquisition programs is one where students have opportunities to reflect on the structures of language. There are three major facets of metalinguistic awareness: phonological awareness, orthographic awareness, and semantic awareness (Kuo & Anderson, 2006). Although not all second graders I have had



in my classroom already have established phonological or orthographic awareness, I have found that the majority of them do have a foundation in these two areas. The area of semantic or morphological awareness is yet to be developed and in particular the ability to reflect upon and the skill to manipulate morphemes have not yet been formed. My study will include as one of its components, the study of morphology, so that students can use their metalinguistic awareness to further decode words.

### *Teaching Morphology*

Morphological awareness is subsumed within metalinguistic awareness and deserves considerable attention in a language arts curriculum. According to Kuo and Anderson (2006) there are three reasons why there is a strong correlation between morphological awareness and learning how to read. First, morphemes are not only related to semantics but to phonological and syntactic properties of language as well. Morphological awareness, as argued by Carlisle (1995) may provide a “more general index of metalinguistic capability” than phonological and syntactic abilities alone. Second, they comment on how morphological awareness is used to process complex words in the adult mind. In their research, they found that the adult mental lexicon is organized morphologically and that words are stored efficiently in morphological frameworks (Sandra, 1994). Kuo and Anderson (2006) argue that “Thus, children with more developed morphological knowledge may have an advantage in acquiring and retaining morphologically complex vocabulary” (p.162). Given that ELL learners need

very sophisticated vocabulary skills to thrive in content-areas classrooms (Francis, et. al, 2006) and morphological awareness is a strong indicator of reading performance, it should then play a substantial role in reading development (Kuo, Anderson, 2006). Third, morphological awareness provides readers insight into the writing system. The ability to identify morphemes would allow readers to access morphologically complex words more accurately and fluently. Because bilingual students' knowledge of two language systems boosts their metalinguistic awareness, it can have an effect on both languages (Mueller, 2002). In order for bilingual teachers to facilitate language acquisition, morphological awareness, as a subset of metalinguistic awareness, should be an instructional focus

Some studies suggest that teaching morphological elements in language has a positive effect in vocabulary and reading comprehension. Kieffer and Lesaux (2007) argue that student comprehension suffers when students have a limited vocabulary and that teaching vocabulary is an essential component of a balanced literacy program (p. 135). They believe that teachers not only need to teach students vocabulary words but also need to give them the tools to independently find meaning in words. One of the tools that they emphasize in their study is the use of morphology. Morphology is the study of a word's structure and the meaning of these structures. In a study of fourth and fifth grade students, Kieffer and Lesaux found that students with a higher understanding of morphology did better on reading comprehension scores if they held fluency constant. Surprisingly they found that morphology was a better predictor of comprehension level than vocabulary. For this reason the subsequent curriculum project will focus not only on vocabulary but also on morphological elements. They also catalogued that this

relationship was the same for native English speakers as it was for Spanish speaking ELLs in an urban setting.

The relationship between vocabulary and morphology is a reciprocal one (Carlo, et. al, 2004; Goldstein, 2004). Understanding morphology will help students expand their vocabulary and improved vocabulary may improve a student's understanding of text. Kieffer and Lesaux write about the benefits of teaching morphology in relation to cognates. Because many academic words in English are similar in meaning and form to common Spanish words, this strategy is particularly promising for Spanish bilingual students. They give the example of the low frequency English word *tranquil* and its Spanish cognate *tranquilo*, a high frequency word in Spanish.

Kieffer and Lesaux point out some pitfalls to the cognate strategy. First, it presumes that students have proficiency in written Spanish. Second, the strategy may not be obvious and would need to be taught through explicit instruction. Lastly, they warn that even literate Spanish students may need targeted instruction to develop the skills of using their primary language to find meaning in their second language by finding cognates. Based on this research, instruction for Spanish, English bilingual students should have an emphasis on morphological structure and cognates.

### *Spanish/English Cognates in Science Curriculum*

It is estimated by National Textbook Company's Dictionary of Spanish Cognates (National Textbook Company, 1997) that cognates account for one-third to one half of the average educated person's vocabulary. Cognates are words that are similar in form

and meaning in more than one language and come from a common ancestor language (Woods, 2005). Because science curriculum is often a fertile ground to find academic language and especially vocabulary with a Latinate background, it is replete with Spanish/English cognates. Because of this commonality, acquisition of English would be easier for our bilingual students if the teachers in my school's Early Exit bilingual program explicitly pointed out important academic vocabulary in a student's primary Spanish language, before introducing transferability of those vocabulary words to English. Though Spanish speaking students may not have an advantage with respect to academic vocabulary in general because the terms are often new to them in either language, there is one area where Bravo et al. (2007) does believe that Spanish-speaking students have an advantage. This advantage is with the Latin derived words that came into English from the use of French (Bravo, p.146). Words of French origin are often used in academic or formal texts and because some of these words are similar to Spanish, these cognates may be useful in the learning of the English words. Examples given by Bravo are the words *frigid*, a word meaning extreme cold, which is similar to *frio* in Spanish, and *insect*, a synonym for bug which is similar to the Spanish *insecto* (Bravo, p.146). Bravo argues that bilingual students should explicitly be shown that their Spanish vocabulary may be a tool in finding meaning in scientific academic language. By doing this bilingual students will have an added resource to access when trying to decode words in either language.

Moll et al. (1992) theorized that students come to the classroom with "funds of knowledge," the intellectual resources such as knowledge about how to function while

doing household or community activities. For example a child who has grown up in a household where a parents is often a construction sites, may have a working knowledge of mathematical concepts regarding area and perimeter. Students bring this knowledge to the classroom from their homes and communities and in the form of concepts and ideas. These may not be academic funds that fit neatly into a classroom's accepted ways of learning but they most certainly are intellectual resources to be acknowledged. These powerful funds of knowledge can creatively be accessed in class "to bridge community with classroom ways of knowing." (Bravo, p.147). A student's primary language can also be considered a practical part of their "funds of knowledge" to be tapped into for transferability to English.

To study the English-Spanish cognates in science curriculum, Bravo et al. (2007) looked at the potential effect of cognate words that appear infrequently in English but frequently in Spanish. They examined the types and number of cognates that might be taught explicitly in the science curriculum. They found that a significant portion of science vocabulary does relate to high frequency words in Spanish. This is an important finding not only in validating the transferability of a Spanish bilingual student's primary language skills to another language, but it also capitalizes on the academic value of cognates.

### *Community of Learners*

Edward Deci (1995) states that there are intrinsic aspirations that satisfies people's innate need for competency, autonomy, and relatedness. One of these aspirations is to make contributions to one's community. When students believe their contributions

are necessary for a community to develop, their confidence and competence towards their own learning grows. Competence, in turn, lowers students' affective filters, a critical and necessary precondition in order for learning to occur. Many teachers who emphasize classroom community as a primary feature of their classroom come from a constructivist point of view in which teachers and students build and construct knowledge together while they interact (Deci, p.65).

Students of diverse cultures may have a disconnect between their own culture and the culture of the classroom (Oakes & Lipton, 1999; Van Tassell, 2001; Hurst & Manier, 1995; Yamauchi, 2005; Sandoval-Taylor, 2005). Forming a common culture, one that helps students to feel safe in learning how to interpret and work with new information would minimize this disconnect and be highly beneficial to learning. Sociocultural theory would describe this aspect of common culture as "intersubjectivity" or the shared meaning that develops between people who have a history of interaction (Wink & Putney, 2002). In my particular classroom students share a common linguistic minority background and also share the category of English language learner; in other words not being part of the majority culture. In the classroom I want to move beyond the shared culture they already come with and move beyond that to create a shared common academic language to interact and decode words.

Yamauchi (2005) describes four important cultural dimensions that influence students' experiences in the classroom. These dimensions are: 1) individualism versus collectivism 2) role expectations 3) power 4) language and genres. To create a community of learners all four dimensions need to be addressed. The first element she describes (individualism vs. collectivism) is illustrated through her work with Hawaiian

children and how they did not enjoy being singled out for either praise or punishment and students tended to teach each other. They were more collectivists rather than individualists. The Latino culture has many similarities. They often live in the same household with extended family and they tend to teach each other. In the classroom, I want to create a community in which students share new-found knowledge for the benefit of the whole group rather than create a competitive and individual search for the meaning of words.

The second cultural dimension Yamauchi describes is that of role expectations. She recounts a striking story of the role teachers play in helping promote indigenous Hawaiian language in the classroom. This language had been banned in schools and other government agencies for nearly a century. Educators at the Papahana Kaiapuni, a K-12<sup>th</sup> grade program, sought to integrate the Hawaiian language and culture into classroom activities. Also, teachers spent time out of class with their students and their student's families. This approach was contrasted with a more western one that has stricter boundaries between school and home. From personal experience having grown up and been a student in the Mexican school system, having taught in the Mexican system and with nearly a dozen family members who are part of the western system of education, I see that Latino culture reveres their teachers as an integral part of the community. In more rural settings they are often the knowledgeable person to come to for advice on matters beyond academics. In my curriculum, I want to integrate my student's families into the academic search for word meaning as many of them are also learning English and would find it beneficial.

The third cultural dimension concerns power. In particular Yamaguchi mentions that cultures have different levels of acceptance of power differences. The U.S. is considered relatively less tolerant of power differences and people try to empower those with less power. She compared the U.S. with Asian cultures in which people do not think it is necessary or appropriate to give more power to those who have less (Yamauchi, p.110). She cited Hawaiian culture as one in which teachers wielded more power and students are expected to respect the power and authority of their elders. Latino culture also holds respect for their elders but most especially for teachers, in this way they are similar to Asian and Hawaiian cultures. Despite this expectation by Hawaiian and Latino cultures for a teacher who manages power, I would like to create a culture in the classroom that creates a group of students that is more autonomous in their word decoding abilities as time goes on. Ideally I would like students to become empowered by their own learning by taking the skills taught them and eventually internalizing them so that they are able to deploy these skills whenever they are needed.

The fourth cultural dimension is that of language and genres Students may come to a school as balanced bilinguals, having the same level of achievement in two languages, or they may have little prior knowledge of the languages used at school. Yamauchi makes three important points about language. First among them is how promoting a student's first language assists in the learning of the second language. Second, learning a second language at school can either be an additive or subtractive process; either a student's primary language is expanded to create a balanced bilingual individual or the primary language is replaced with the second language. Her third, point outlines how the process of language acquisition in many U.S. schools is subtractive: that



students learn English at the expense of the first language (Yamauchi, 111). My curriculum would be designed to be additive: it would serve both to expand students' primary language as well as use their first language as a resource to help attain acquisition of skills in their second language.

### *Affective Filter*

The relationship I have with my second grade students at the beginning of the year is quite asymmetrical. I do most of the talking in the initial weeks and students slowly take on a more active role in the classroom. This strategy emphasizes two goals: 1) students are aware of how the routines and procedures function in the classroom and 2) students become increasingly more comfortable in order to lower their affective filters so that the classroom is a safe place where they can freely share their knowledge with each other.

The affective filter is associated with Stephen Krashen's Monitor Model (1979) that explains that language is acquired in a natural, unconscious manner. The affective filter is described by Baker (2000) as:

a metaphor that describes a learner's attitudes that affect the relative success of second language acquisition. Negative feelings such as a lack of motivation, lack of self-confidence and learning anxiety are like a filter which hinders and obstructs language learning.

Wills (2007) explains that the affective filter is a fundamentally neurological process. Research of the amygdala part of our limbic system that concerns emotional, behavioral, and long term memory shows that when the amygdala is in a state of hyperexcitement, neural activity through the amygdala to the higher learning and

association centers in the brain are profoundly reduced (Xiao & Barbas, 2002). It is this state of anxiousness that we seek to reduce in the classroom so that students can feel at ease learning and experiencing new things. Wills (2007) states that “The affective state of anxiety occurs when students feel alienated from their academic experience and anxious about their lack of understanding” (p. 34). This is most common when learning a second language. A low anxiety environment in which students use and play with language is best. The lowering of the affective filter is also helpful in creating a context with which to facilitate the academic goal of creating word consciousness. Word consciousness is an awareness of and an interest in words and their meanings as stated by Anderson and Nagy (1993). Word consciousness involves both a cognitive as well as an affective stance towards words. Furthermore, it integrates metacognition about words, motivation to learn new words, and deep and lasting interest in words (Graves, 2006).

In the curriculum I propose to create a framework of predictable routines that will facilitate the lowering of the affective filter both in Spanish and English instruction so that I can teach word consciousness while providing adequate scaffolding. Although there is a desire to have students feel safe and comfortable in the classroom, there also need to be times when students feel a sense of uneasiness in learning new things. According to the Piagetian concepts of disequilibrium and equilibrium, there does need to be a tension or an unsettling moment for the students that drives motivation and the whole cognitive process (Oakes & Lipton, 1999). There will be a feeling of disequilibrium as students learn new concepts and skills to decode words but this will all be in the context of a classroom that has predictable routines and procedures, and predictable ways of acting towards student’s attempts to answer and reactions to incorrect answers. All answers or

attempts to answer will be validated as learning opportunities. The classroom will be open to discussion and different interpretations when trying to decode the meaning of words. In this way students will be validated in their attempts at trying to find the correct answer and in turn the affective filter that blocks language acquisition will be lowered.

While bilingual teachers must take into account the challenges faced by language minority students such as socio-economic status and having to learn a new language, they also need to look at, nourish and expand the metalinguistic knowledge that they already possess. A good curriculum will take into account a student's "funds of knowledge," whether linguistic or otherwise, to expand from what they come with. These challenges should guide a critical review of the current curriculum being used.

#### IV. Review of Existing Curricula of Vocabulary Building

As teachers work to narrow the language gap between students in more affluent socio-economic groups and those in lower socio-economic groups there are many strategies that focus on what researchers believe are the most profitable ways to get students to understand and retain vocabulary. There has been a shift to focus on strategies that are backed up by research studies and so resources have responded to a need that corresponds to research findings. Despite this, there are certain research areas and subgroups that are less popular and get less attention than others. Because of the increase in the Latino population and because Latino students are still not performing as well on standardized tests as those who are pressured by test scores hope, there has been increased research attention paid to this subgroup. The language arts arena seems a great place to start as many Latino students have Spanish rather than English as their primary language. In vocabulary instruction, however, there still has not been much studied on how to best target Latino students to access and retain vocabulary.

"When you think of vocabulary, there is a good chance that you think of long lists of words from social studies or science textbooks, spelling word lists..." (Ellis 2002). Vocabulary has been typically taught by giving students word lists with directions to find and write down the definitions of words. As research studies focus more on multimodal ways of understanding word meaning, considering multiple intelligences and how the brain organizes and retains information, vocabulary instruction has become much more multi-faceted.

The following section includes a review of the adopted Houghton Mifflin *Lectura* Curriculum as well as the Macmillan/McGraw-Hill *Ciencias* curriculum used at my elementary school. The Houghton Mifflin curriculum suggests a way to look at vocabulary that includes visuals, words, definitions and opportunities to write and draw on worksheets that concentrate on words and definitions. I was interested in seeing how vocabulary instruction as presented by the Houghton Mifflin curriculum could be expanded to include multiple exposures to the words and a further deepening of understanding of the words by accessing student's metalinguistic awareness, and prior knowledge. I could present this to students in the form of word mappings and games. In the science curriculum, I wanted to search the opportunities from transferability from student's Spanish language to the English text. Because of the large Latino population in California and because of the large storehouse of transferable vocabulary in science, I wanted to see how the curriculum is takes English Language Learners into consideration. In particular, I wanted to see how the explicit mention of cognates would make the text more comprehensible.

#### Houghton Mifflin *Lectura*/Language Arts

In 2002, the California State Board of Education adopted two programs for the Spanish Reading and Language Arts components to teach bilingual Spanish speaking students. The publishers for the two adoptions are McGraw-Hill and Houghton Mifflin. One of the main criteria for adopting a curriculum was direct connection to the California Standards for Education. My elementary school used the Houghton Mifflin (2003)

adoption for its Language Arts instruction for the past five years. Houghton Mifflin's *Lectura* series is described as "...scientifically research-based reading program...built around rich, authentic literature and powerful, step-by-step instruction that lets students experience success starting on day one." (Houghton Mifflin Company, 2002). The Spanish *Lectura* series is available for bilingual Spanish speaking schools. Teacher manuals and student textbooks and workbooks are available in Spanish. Extra support manuals, including books to help students who are not at grade level or students who are advanced and need challenging are not available in Spanish. I will only concentrate on the curriculum that is available in Spanish. Before providing an analysis of the vocabulary and morphology component of this instructional program, it is important to see how well the California Standards align with this curriculum. The content standards for second grade that address vocabulary and concept development are the following:

1.7 Understand and explain common antonyms and synonyms.

1.8 Use knowledge of individual words in unknown compound words to predict their meaning.

1.9 Know the meaning of simple prefixes and suffixes (e.g., over-, un-, -ing, -ly).

1.10 Identify simple multiple-meaning words.

In the Houghton Mifflin curriculum, some second grade standards are addressed more deeply than others. There are six lessons in every story sequence on grammar and five lessons on spelling while there are only two lessons for vocabulary. Interestingly, the district's theme assessment for these standards correlates with some standards more deeply than others. These assessments, provided by the San Diego County Office of Education, test a section on spelling, tests three aspects of grammar and four different

aspects of vocabulary: antonyms, synonyms, multiple meaning words, and the use of context clues to determine word meaning. The spelling and vocabulary sections areas are written in a multiple choice test format. This is the only way in which students' vocabulary knowledge was assessed. The grammar test is written out but often only asks for one word answers. There is a lack of depth in both vocabulary and grammar testing. The Houghton Mifflin curriculum and the theme assessments provided by the San Diego County Office of Education do not give equal weight all California Standards so teachers are compelled to concentrate more heavily on some standards than others. The standards we concentrate on because we heavily rely on the curriculum and on testing, may not be the most helpful specifically for bilingual Spanish speaking students learning English.

The Houghton Mifflin *Lectura* program is organized through a five-day pacing guide. Within it, vocabulary instruction is explicitly taught on days two, four and five. Our school adopted a seven-day pacing guide to be able to fit in as much of the curriculum as we can throughout the year. The district's teachers used a five-day pacing guide for the first three years of the implementation, but were dissatisfied that they were not doing a thorough and effective job teaching vocabulary. In order to analyze test data with other teachers at the same grade level, teachers felt pressured to finish stories at the same time, day five was often not taught completely or at all. Unfortunately, day five is the only day that provides the Vocabulary Expansion section that uses semantic mapping skills. These skills are the ones that create a greater connectivity between words that leads to greater vocabulary expansion. Without these skills, students were limited to workbook activities such as connecting the word with its definition and finding words in

the glossary. Although these are important skills they do not foster in students the higher level thinking skills to be able to decipher unknown words on their own.

The vocabulary instruction provided by Houghton Mifflin is composed of three sections. The first section comes before the beginning of each story. To introduce a comprehension skill teachers use a story read-aloud. The main objective of the read-aloud is for the students to build auditory comprehension and to practice certain comprehension skills such as forming opinions, finding the topic, main idea and details of a story, and making inferences, just to name some examples. Within the read aloud there is always a box containing between two to six vocabulary words that may be essential for the auditory comprehension of the story. The Teacher's Edition does not give any suggestions as to how to use these words but merely places them in a square next to the reading.

The section that follows contains vocabulary in the Building Background portion of the lesson and it also precedes every reading selection. In this section, there are two pages with the main vocabulary for the reading selection listed on the margin. These are also included in the text of the book in these two pages. There are relevant pictures or drawings that can be referenced by the vocabulary words as well. Included in this lesson is also a transparency with sentences containing the key vocabulary words that provide context clues to the meaning of the word. A workbook page is available in which students use the words in sentences, are sometimes asked to draw the words, or students may fill in the blank of a sentence with the vocabulary words. As the teacher reads the story, additional words are provided in the Teacher Edition margin that the teacher can



make use of to help students understand the story. There is no curricular support for these words other than setting these words aside in the margins.

Finally, there is a section titled “Vocabulary Skills” that focuses on skills such as word finding skills in a dictionary. Three to four stories are organized around a theme and there are a number of vocabulary skills that are emphasized. In addition, in this section is an area titled “Expanding Your Vocabulary” in which the curriculum directs students to use graphic organizers and semantic mapping to organize words into lists or webs to make connections relevant to the selection students are reading. However, because of lack of time and because this is an activity set for the last day of the pacing guide, it is often overlooked by teachers.

The Houghton Mifflin Lectura (2003) program uses many strategies to support vocabulary building. Among them are:

- Building background by giving key vocabulary terms before reading the selection
- Providing visual cues to aid in vocabulary acquisition
- Using context clues to allow students an opportunity to figure out the word before it is taught
- Using words strategies such as fill in the blank to see if a student understands the meaning of a word
- Using graphic organizers to organize words
- Providing multiple interactions with some of the words taught
- Giving the teacher access to words throughout the selection that may impair a students comprehension if they are not recognized

The curriculum does not address metalinguistic skills, it does not have a focus on morphological elements of language or look to make connections in transferability from the Spanish language to English.

When I analyzed the words that teachers are expected to explicitly teach and those that are on the margins of the Teacher Edition in the Houghton Mifflin *Lectura* (2003) curriculum, a pattern emerged. The majority of the words are nouns, followed by adjectives and finally verbs. I used Beck's Tier word system (Beck, 2002) to analyze the words in two selections from Houghton Mifflin's Theme 3 story for second grade. Beck suggests that educators use a tier system to categorize words for instruction. Tier One words are those that are quite common and considered the most basic words. From our selection I categorized *apartamentos* and *restuarantes* as Tier One words. Tier Three words were those that are particular to a certain domain and low in usage. In our current selection I categorized "Tai Chi" and *herboristería*, an herbarium or herb store, as Tier Three words. Tier Two words are those that are "...high frequency words for mature language users" (Beck, p.16). Teachers need to mine our stories and books to find the Tier Two words according to Beck to build students' vocabularies to include words that they will encounter in academic life. For our selection I categorized *ruta*, route, and *chisporrotea*, to sizzle, as Tier Two words. The majority of words that we are asked to teach explicitly or those that are in the margins are Tier Two words which is a good sign for our program. It is highlighting word that are high frequency in academic language and that students are likely to see many time in their academic life and beyond.

Because teachers have a limited amount of time to directly teach specific vocabulary words, it is imperative that teachers look at the words that will have the greatest impact in the short time that we have with our students. Much of the vocabulary that students learn is indirectly learned as they hear and see new words, by being read to, reading independently or simply listening to a conversation. Therefore, teachers need to have well sharpened skills to determine which words and word learning strategies ought to be the focus of instructional time.

While going through the *Lectura* curriculum, I found it is lacking. There is little time or attention given to help students learn word decoding skills going beyond using context clues and the words directly taught by the teacher. There is also limited use of semantic mapping. Both are exceptionally important skills for all learners to take word decoding skills into their own toolbox of skills to use when encountering new words on their own. The Houghton Mifflin Language Arts curriculum shows a lack of instruction for word deciphering skills which will become more important as students gain access to more abstract information in the upper elementary school grades. According to the second grade team at my school, students have the greatest difficulty with non-fiction texts. Students are assessed every three to four weeks in Language Arts and in these assessments we have students read two fluency passages. The first reading is always a narrative and the second passage is nonfiction. Students consistently fare much more poorly on the second fluency passage as they find words that are more content specific and found in more fact laden, non-fiction texts. The Houghton Mifflin curriculum focuses more on fiction stories rather than nonfiction stories. There needs to be a focus on grade level nonfiction text such as the Science text provides which proves a rich group for Tier

2, higher level, academic language. Unfortunately with time restraints in the teaching day, science is not always given the time it deserves and bilingual teachers are missing out on a great learning ground that provides great vocabulary that would help in transference skills for bilingual students.

*Macmillan/McGraw-Hill Ciencias/Science- An Area with Great Potential*

Science is an academic area infused with a high volume of academic language and vocabulary. Latin was the language of clergy and scholars in the Middle Ages, and because science and written language was dominated by these two groups, Latin is now infused into both. There is a tradition of attaching Latin names, often derived from Greek words, to new discoveries in the scientific field. These words that branch out from Latin origins are similar in Spanish and English (Bravo, 2007). The following examples from the *Ciencias* Mcmillan/McGraw-Hill, 2007 edition that was adopted by my district, illustrate similarities in Spanish and English words of Latinate origin: *polen/pollen*; *germinar/germinate*; *pistilo/pistil*; *fruta/fruit*.

The Mcmillan/McGraw-Hill curriculum has made explicit mention of Spanish/English cognates and contains a highlighted section for academic language at the beginning of each chapter. The 2<sup>nd</sup> grade book contains seven chapters, and in each chapter's there are from four to six cognates. The teacher's guide suggests that teachers discuss the cognates with the students to facilitate the transition from Spanish concepts and words to English. The vocabulary section in the science curriculum highlights a total of 27. This number is in line with what Marzano and Pickering (2005) determine to be a feasible number of academic words to teach within a year for one subject area (p 7).

*Proposal*

In the previous curriculums there is a lack of focus on certain California teaching standards in morphology as well as in areas of language that would promote deeper word understanding and that could be highly beneficial for promoting the word decoding skills in Spanish and English of Spanish-speaking ELL students. I propose a curriculum in which there is a greater focus on three main areas of language: 1) morphological elements of language in Spanish and English to improve vocabulary decoding skills; 2, expansion of vocabulary instruction to include metalinguistic awareness of student's own understanding of a word and includes semantic mapping; and 3) , capitalizing on the orthographic and meaning similarities in Spanish and English present in much academic language and vocabulary in the science curriculum. Specifically I wanted to examine the similarities of Spanish and English cognates.

In the chapter that follows I will propose a curriculum that takes into consideration the ways in which the current curriculum is lacking. Specifically I will focus on the California state standards that will most strongly benefit decoding of words and on the skills that will easily transfer from Spanish to English.

## V. Bilingual Word Detectives

Bilingual Word Detectives is a curriculum designed for bilingual students. It focuses on students whose primary language is Spanish and works with this asset to help increase knowledge about words through lessons on morphology and the acquisition of vocabulary through instruction in Spanish and English. This approach uses metacognition to foster word decoding strategies in both languages. Students reflect on their own thinking through metacognitive strategies. In particular, students focus on language and show metalinguistic awareness by expanding on their knowledge that written and oral Spanish and English languages interact with and are related to each other.

In this curriculum I focus on two California State Content Standards for Vocabulary and Concept Development:

1.8. Use knowledge of individual words in unknown compound words to predict their meaning

1.9 know the meaning of simple prefixes and suffixes

I decided on these two standards because lessons in this area are lacking in my school's curriculum. The study of linguistic elements such as prefixes has the potential of creating a great bridge to English acquisition if it is organized in a way that facilitates using the students' knowledge of their primary language. Our curriculum has disregarded to make explicit mention of the commonalities between the Spanish and English language.

Because I teach in a bilingual classroom, initial instruction in new concepts is provided in Spanish Bilingual Word Detectives has three main activities. First, I

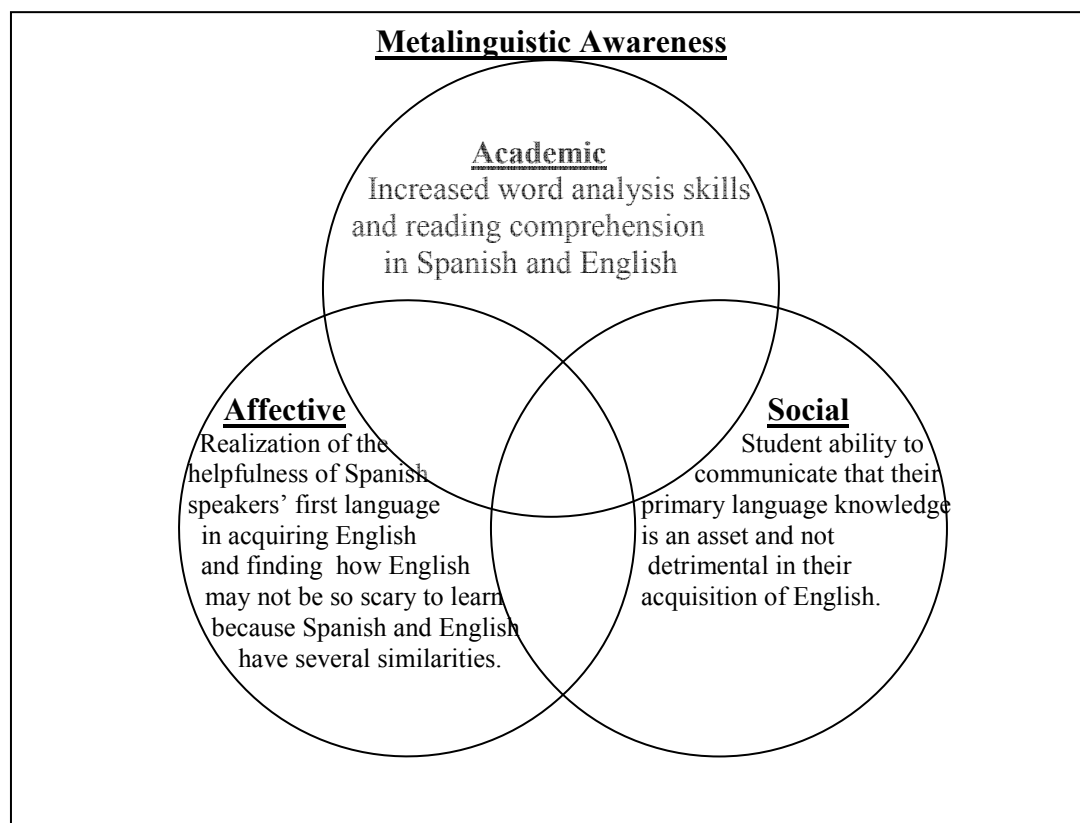
introduce students to structural analysis of words through the Prefix Detectives. Second, I show students how to use their Spanish awareness of words and apply it to English by explicitly pointing out words that have similar orthographic form and word meaning, through Cognate Hounds. Finally, students are introduced to the idea of metacognitive self regulation in their Word Maps.

I want to create a greater ease in the acquisition of Spanish and English particularly because I am working in an Early Exit Bilingual program where students learning in the primary Spanish language are expected to transition to English in 3<sup>rd</sup> grade. Because students are expedited in their language acquisition I hope that Bilingual Word Detectives will give students some of the necessary tools to help in understanding English while still augmenting their word power in Spanish.

### *Goals*

In Bilingual Word Detectives curriculum there are three interrelated desired results, the academic goal, the affective goal, and the social goal (See Table 1). The overarching goal is to create a metalinguistic and metacognitive awareness in students that allows them to analyze language more closely. Metalinguistic awareness as a transfer of linguistic skills and knowledge across languages will not only create greater access to the students' primary language but also to English.

Table 1: Main Goals of the Curriculum



Cognates are words that look like and carry the same meaning in different languages. Teachers should make Spanish speaking students fully aware of the existence of cognates in English to help them create meaning when they encounter text in English. I hope that this will create a great sense of how advantageous it is to have Spanish as primary language because it will foster understanding in English through several channels

*Academic Goal*



The academic goal is to make students explicitly aware that words are not only made up of phonemes, sounds that together create the whole meaning of a word, but that there are morphemes or word parts within words that also carry meaning. Having this base knowledge students will be able to infer the meaning of words not encountered previously. Subsumed under this goal is the idea that many morphemes in Spanish, particularly prefixes, have the same meaning in Spanish and in English therefore morphological knowledge of their similar roots and meanings will build both languages

The academic goal spans Prefix Detectives, Cognate Hounds and Word Maps. Through Prefix Detectives students should be able to recognize that words are made up of morphological elements, prefixes in particular. They will also know the meaning of certain prefixes and use their meaning to interpret the meaning of whole words. Through Cognates Hounds students will realize that there are words that are spelled similarly and have the same meaning in English and Spanish. Students will use the meaning of the word in one language to figure out the meaning in the other language. In Word Maps, students will recognize vocabulary words, their synonyms and their antonyms. Also, students will be able to use their vocabulary words in sentences to show meaning.

### *Social Goal*

As a result of the three activities mentioned above students will realize that making meaning of words needs us to employ strategies that come from our individual word decoding skills but that also include the help of others. Students will search for prefixes in the classroom in groups. Through Cognate Hounds, students will work in pair to find cognates in their science curriculum. Students will create a community of learners

as they work together with the common goal of finding meaning in words.

### *Lowering the Affective Filter Goal*

Students will see the usefulness and increase the feeling of validation of their primary Spanish language as they find that their primary language will help in the acquisition of their second language. The affective filter of students, when they encounter a new language or feel like they cannot communicate effectively, will be lowered as they find that there are many similarities between Spanish and English.

Through Word Mapping students will recognize that there are different levels of knowing a word and find that they may have had a misconception as to the meaning of a word. Also students will play with words, their antonyms, and synonyms.

Bilingual Word Detectives has three main goals for students, an academic goal, a social goal, and a goal to lower students' affective filter in the classroom. As a result of this curriculum students, should have skills to 1) analyze the meaning of new words, 2) use the social aspects of language to further their understanding of word meanings and 3) use metacognitive skills to figure out the meanings of new words and become increasing more independent.

The goal is to make students aware that their primary language is and will be of great help in acquiring their second language because of the many similarities between Spanish and English. There are many vocabulary words commonly used in Spanish that are considered high level Latinate vocabulary in English and will help students when they are faced with academic language. Although phonics or letter sound recognition typically develops in early childhood and then stops after the skill has been acquired, vocabulary

development is a lifelong journey. I hope to foster a sense of wonder and excitement for words in my students that will commence their voyage as little etymologists and ultimately promote their reading comprehension. *Constructs*

The three main constructs of Bilingual Word Detectives are metalinguistic awareness, community of learners and affective filter. Each one of the constructs helps form a curriculum in which students think about their own thinking, think about language by becoming more aware of language and its structure, find that others will help in the acquisition of language and making use of their awareness that many Spanish words are similar in spelling and meaning to many English words. The constructs helped guide the goals, the activities and the evaluation of these activities (See Tables 2, 3, 4).

Table 2: Academic Goal, Construct, Activities and Evaluations

<b>Goal</b>	<b>Construct</b>	<b>Activities</b>	<b>Evaluations</b>
<p><b><u>Academic-</u></b>  <b>Improve word decoding skills in Spanish and English bilingual students</b></p> <p><u>Prefix Detectives-</u>            -Students recognize that words are made up of morphological elements            - Students will know the meaning of prefixes</p> <p><u>Cognate Hounds-</u>            -Students recognize Spanish/English cognates            --Students use the meaning of a word in Spanish to figure out the meaning of the word in English</p> <p><u>Word Mapping-</u>            -Students recognize vocabulary words, their synonyms and their antonyms            -Students will be able to use their vocabulary words in sentences</p>	<p><b>Metalinguistic Awareness</b></p>	<p><u>Prefix Detectives-</u>            - Introductory Power Point about prefixes.            - A review of the resources (Spanish/English dictionaries. Cognate dictionaries)            -Prefix detectives search the room            -Students have their own “<i>Esos Poderosos Prefijos/ Those Powerful Prefixes</i>” logs to chart their own prefixes. These are also taken home.</p> <p><u>Cognate Hounds-</u>            - In pairs, students find cognates, circle them, in English text            -Students write the Spanish cognate directly above it English word            -Students find English/Spanish cognates individually</p> <p><u>Word Mapping-</u>            -Students incorporate a metacognitive process by rating their understanding of a word, write their predicted definition and write the dictionary definition</p>	<p>-Track how many times students participate in Prefix Detectives by writing their findings on the board.</p> <p>-Analyze “<i>Esos Poderosos Prefijos/ Those Powerful Prefixes</i>” log (words written at home, correctness, quantity)</p>

Table 3: Social Goal, Construct, Activities and Evaluations

<b>Goal</b>	<b>Construct</b>	<b>Activities</b>	<b>Evaluations</b>
<p><b><u>Social</u> – Create a community of academic language learners in the classroom</b></p> <p>-Students speak to the teacher and to each other about prefixes, cognates and vocabulary words</p> <p>-Students work in collaboration to find meaning of words.</p> <p>-Students, teacher and resources create a working class knowledge base and a common language to analyze words</p> <p>-Students will use word decoding skills out of their own volition</p>	<p><b>Community of Learners</b></p>	<p>-Catalogue students doing Prefix Detectives in collaboration with other students</p> <p>-Search for cognates in pairs</p> <p>-Catalogue students that speak to each other or to me about prefixes, cognates or vocabulary words out of their own volition</p>	<p>-Catalogue any reference to prefixes or word recognizing skills that students mention to each other, during a lesson that is not intended to look at that skill or in informal talks with me.</p> <p>Catalogue: -Whether they spoke of prefixes, cognates or vocabulary</p>

Table 4: Lowering the Affective Filter Goal, Construct, Activities and Evaluations

<b>Goal</b>	<b>Construct</b>	<b>Activities</b>	<b>Evaluations</b>
<p><b><u>Lower the affective filter-</u></b>  <b>Students apply and know the word analysis strategies and can explain and use them more often in both languages</b></p> <p>-Students use word decoding skills out of their own volition</p> <p>-Students' affective filter will be lowered</p> <p>-Students explain to parents and to teacher why we are learning prefixes, cognates and vocabulary</p>	<p><b>Affective Filter</b></p>	<p>-Students interview with parents about why we are learning about prefixes, cognates, and vocabulary</p> <p>Compared to:          -Students interview with teacher about why we learned about prefixes, cognates, and vocabulary.          Difference in quality and quantity</p> <p>-Students analyze throughout the implementation to show a greater application of skills in speaking to classmates and to me about their findings.</p>	<p>-Catalogue explanation to parents about what prefixes, cognates and vocabulary are and why we study them.</p> <p>- Catalogue explanation to me about what prefixes, cognates and vocabulary are and why we study them.</p>

Through the construct of metalinguistic awareness students will be strengthening their understanding that language has many rules and that the rules sometimes are the same between two languages. They will use this knowledge to help decode words in all three activities. Students show their awareness of words through the Prefix Detectives by finding words that have prefixes, with the Cognate Hounds by finding Spanish/English cognates and through Word Mapping by looking at their previous knowledge of a word and comparing it to what other resources say it means.

The construct of community of learners accentuates the importance of creating a space where students feel that they are part of a group that is working to accomplish the same goals. In the three activities of Bilingual Word Detectives there will always be a component to have students share their finding with the classroom community and a space within the classroom to display the finding. This would create a working knowledge base for our classroom and a common language that we use to talk about the words found.

The affective filter will be lowered by strengthening the classroom ideals that everyone is heard and all ideas are welcome to be analyzed and incorporated into the classroom knowledge base. By having students feel comfortable with the routines and procedures of the classroom analysis, students would share more readily and in turn help increase the classroom knowledge base.

### *Overview of Activities*

Bilingual Word Detectives focuses on three areas of vocabulary knowledge that hold promise not only in augmenting the student's vocabulary in Spanish but also in English.

The three activities are Prefix Detectives, Cognate Hounds and Word Maps. The first activity is Prefix Detectives, using Bilingual Prefix Logs. These take on the heaviest morphological emphasis. Prefix Detectives is the introductory activity in which students are guided to see what a prefix is and how it can be found in text all over the classroom. Special care was taken get “more bang for our buck” for our bilingual students: the words and the prefixes chosen for direct instruction were those that were similar if not identical in Spanish and in English. As students find prefixes, the prefixes are written down and placed on a poster to be displayed in the classroom at all times. To continue this activity, students are given their own Bilingual Prefix Log in which they write the meaning of the prefix, illustrate it and then as a class we list words that exemplify the prefix. The Prefix Log is bilingual in that students list Spanish and English prefixes side-by-side. I chose the prefixes that are spelled the same in English and Spanish and that carry the same meaning.

The second activity is on Spanish and English cognates, words that have the same meaning and are orthographically similar in both languages. This activity uses the science curriculum as its foundation because it is rich in cognates, particularly ones that could be categorized as academic language. This activity is titled Cognate Hounds as we search and sniff out cognates while we read for content knowledge. Students mark text to demonstrate their awareness of these cognates.

The final activity, Word Maps, focused on vocabulary found in Houghton Mifflin’s 2003 second grade *Lectura* book. The vocabulary taught comes from stories read in second grade as well as from their workbook pages. The vocabulary is chosen for its Tier 2 or Tier 3 categorization as described by Beck, 2002. Tier 2 words are high



frequency words used by mature users and that can be found in several content areas. Tier 3 words are more limited in their frequency and most often attached to one specific content area.

### *Conclusion*

The overarching agenda for the three activities is to create a greater depth in metalinguistic awareness in our bilingual students which is not well supported by the current ELD curriculum. The 2003 Houghton Mifflin curriculum carries with it a great emphasis on comprehension strategies that spiral through the kindergarten through sixth grade levels. These strategies include phonics/decoding, predict/infer, monitor/clarify, question, summarize and evaluate. These strategies are reviewed at the beginning of each year. This spiraling from kindergarten through sixth grade is an outstanding way to solidify these skills. The spiraling through the grade levels should be generalized into our instruction in vocabulary development. Word decoding skills for vocabulary development deserves attention at all grade levels. Vocabulary development is of critical importance because it is a feature of comprehending text. There is an even greater urgency in creating this awareness bilingual students of low socio-economic status, because not only do they come to our schools with less exposure to written and verbal, but also because our early exit program expedites the transition to English and students need to be able to have as many tools accessible to them to be able to decode words. When students in our school reach fourth grade there is no explicit help or mention to use the stores of knowledge in their primary language to access English. It is for this reason that Bilingual Word Detectives was designed to give students a toolbox to take with them through their

academic career. The toolbox will offer skills to enhance their Spanish vocabulary as well as skills to continue to unravel the English language.

## VI. Implementation of Bilingual Word Detectives

### **The Setting**

*Description of Community.* I work in a city situated approximately fifteen miles east of the city of San Diego. This school district serves the children from the families of approximately 95,000 people. This district has 29 schools that include middle schools and elementary schools. Racially the city is made up largely of white people (74.0%), followed by Latinos (22.5%), with 10.5% reporting some other race to the Census Bureau in 2000. The median family income in 2000 was \$40,045 and 19.6% of families with children under 18 years old live in poverty below \$10, 294 per person or four person income less than \$20, 614.

The school where I am currently employed is a large K-5 school where there are nearly 700 students enrolled. The school is surrounded by apartment buildings, a mobile home complex and some single-family homes. Our school has a diverse student population in which 13 different languages are spoken at home. Within this population, 43% of our student body is classified as English learners. Our school is a designated Title I program school. This program allows our students to receive support as needed in the areas of reading, writing and math. Our school was also identified as a State Assistance and Intervention School. A team was formed to provide an action plan to make improvements at the school. State Assistance and Intervention School members made monthly visits to the school and the school had to report each trimester as to how the action plan was coming along. Additionally, our school houses an early exit bilingual/alternative program for our Spanish speakers. More than fifty-four percent of

our students are Hispanic or Latino but they are not all served in our bilingual program (Lexington School Accountability Report Card Reported for School Year 2006-2007). Some parents choose not to have their children in the bilingual program. Of the 29 schools in our district, our school has the highest percentage of students receiving free or reduced lunches which is an indicator of poverty.

*Description of Class.* I began the school year with 19 students, 10 boys and 9 girls. Eighteen of the students come from a Mexican heritage background while one is a first generation immigrant from Guatemala. Some students' families have lived here for over two generations and parents are keeping their children in the bilingual program because they want to keep their heritage language, while others just arrived this year from Mexico and want their children to learn English. There are various fears amongst different groups. Some fear the loss of the language and therefore the loss of communication abilities with *los abuelitos*, the grandparents, while others are more concerned with their children learning English. The majority of the students live with both of their parents and in many cases both parents work.

Our school is considered a 'turnstile' school because a significant number of students leave our school in the middle of the year and many new students arrive. This may be a marker of the instability of employment in the area. Despite the school's reputation for this fluid student body the bilingual classrooms tend to be more stable than the English only classrooms. In the 2007-2008 school year I lost only one boy, whose father got employment closer to the border. He left in February.

*The Teacher.* As a child I was raised in a bilingual home where Spanish was emphasized. My father was born in the state of Washington and my mother in a small village south of Puerto Vallarta, Mexico. They met in Mexico and raised my brother and me in the port town of Puerto Vallarta. During our time in Puerto Vallarta I attended bilingual schools where we were taught in Spanish for half of the day and English for the other half. Our main language was Spanish and speaking English was not natural at home and only used when my parents had English speaking visitors. We stayed in Puerto Vallarta until I was 10 years old at which time my parents decided that our education from that point on should take place in the United States.

Although the majority of my childhood was immersed in the Mexican community and Spanish language, we were exposed to English in school. In school, we heard English through instruction and with international students. My family also came to southern California on several occasions for summer vacations when we visited my father's family.

Upon arriving in San Diego I attended a public school where there was no Spanish instruction. Despite having had the bilingual background in school and having been exposed to U.S. culture in vacations, my first year in U.S. schools was quite difficult and my grades plummeted. It is in these first few years that I learned coping mechanisms in which I had to be very well aware of the teacher's intonation while speaking, body language as well as that of my classmates to decipher what was happening and what was expected of me. Because the language input at first was overwhelming, it was imperative that I use other skills to survive in the classroom. It took several years to raise my

grades to the level that I expected of myself in Mexico. Adjusting to school culture and U.S. culture in general was more difficult than my parents or I expected.

This experience influenced my decision to pursue a teaching credential through the International BCLAD program after graduating from UCSD. For nine months, my initial teaching practices were carried out in private, public and indigenous schools in central Mexico. The goal was to gain a greater perspective on the students we would be encountering in our classrooms in California.

Although my experience as a child moving to the United States was replete with drawbacks and frustrations, I believe I may have had more opportunities than most of the students I have in my classroom. My family came to the U.S. for the advancement of my education and not for our financial advancement. For this reason my parent's main goal was to find a neighborhood they considered safe and a school that would provide a great education. I am not sure most of my students had such an advantage. Nevertheless I share similar language and cultural influences and issues with my students.

I began teaching during a time where new teachers were told jobs were scarce and we should take any jobs presented to us. My dream was to be employed in a dual immersion language program because this is similar to what I was exposed to as a child and it fit well with my ideals. I was hired on a temporary half-year contract in an early exit bilingual program and despite having learned that this type of program tends to be the least effective in maintaining the positive effects of having two languages, I stayed because of the need to be employed and because I had an amazingly supportive coach and team that held the same views on bilingual education that I did. I have been at this school ever since trying to cement a firm foundation in Spanish for our second grade

bilingual students and helping them find their way to English. This curriculum design arises from that ambition.

### *Implementation of Prefix Detectives*

The first part of the curriculum was focused on the morphological structure of words, specifically on prefixes. To begin, I researched what the most common occurring English prefixes are. Next I cross referenced them with Spanish prefixes to see which ones occurred in both languages and had the same spelling and meaning. By doing this I created a direct bridge between Spanish and English words (See Table 5).

Students were then introduced to prefixes with a Power Point presentation. The Power Point contained three main ideas: 1) prefixes are powerful because they will help you determine word meaning in words you may have never seen before; 2) although some words may begin with the same letters as a prefix these letters may not carry a prefix's meaning (for example the prefix re-, meaning again, is not found in the word *rent* although it has the same orthographical beginning), and 3) many prefixes in Spanish directly transfer orthographically and in meaning to English.

Table 5: Most Common Prefixes in English

Adapted from Texas Reading Initiative, 2002  
 (<http://www.tea.state.tx.us/reading/products/redbk5.pdf>)

Graves, Michael F., 2006

\* Prefixes selected for instruction

Rank	English Prefix	Meaning	Percent of all Prefixed Words	Words with the Prefix	Prefix found in Spanish with the same meaning
1	un-	not	26%	782	
2	re-	again	14%	401	X*
3	in-, im- il-, ir- (not)	not	11%	313	X*
4	dis-	not, opposite of	7%	216	X*
5	en-, em-	cause to	4%	132	X
6	non-	not	4%	126	X
7	in, im- (in)	in	3%	105	
8	over-	over	3%	98	
9	mis-	wrongly	3%	83	
10	sub-	under	3%	80	X*
11	pre-	before	3%	79	X*
12	inter-	between	3%	77	X*
13	fore-		3%	76	
14	de-	opposite	2%	71	X*
15	trans-	across	2%	47	X*
16	super-	above	1%	43	X*
17	semi-	half	1%	39	X*
18	anti-	against	1%	33	X*
19	mid-	middle	1%	33	
20	under-	under	1%	25	
	All Others		3%		



After development of these activities, I was ready to introduce the *Detectivos de prefijos*/Prefix Detectives to my students. At my school, second grade students rotate classes for the 45 minute English Language Development class. Students are homogenously grouped by their level of English and are dispersed between three teachers. Although we try to synchronize the dismissal times from each class, there is a waiting period before all the students come back into the classroom. In this waiting period of approximately five to seven minutes we began our search. Care was taken so that all students had time to work with the prefixes. Only four of my students out of 19 had to come back to the classroom from other classrooms. These four students are categorized as higher level English proficiency.

After I introduced students to a prefix's meaning, I instructed them to search all text in the room, including books, walls, fliers, and homework to find the spotlighted prefixes for the week (See Figure 3). Each week I taught approximately two prefixes. The prefixes were taught in descending order beginning with those most commonly occurring in the English language to those less frequently occurring. I taught the prefixes in the following order: re-, in-, im-, ir-, dis-, sub-, pre-, inter-, trans-, super-, semi-, anti-, pro-, bi- .

When a student found a prefix he rang a class bell and all students froze. Then a scripted dialogue ensued that allowed students to hear and use the word *prefijo*/prefix several times.



Figure 3: 2<sup>nd</sup> grade students looking for words with prefixes in the classroom  
 Personal photograph by author. March 12, 2008. Permission granted by parents to publish.

Teacher: *¿Qué pasó [nombre del alumno]?/* What is it [student name]?

Student: *Encontré un prefijo./* I found a prefix.

Teacher: *¿Qué prefijo encontraste?/* What prefix did you find?

Student: *Encontré el prefijo \_\_\_\_\_.* / I found the prefix \_\_\_\_\_.

Teacher: *¿En qué palabra lo encontraste?/* In which word did you find it?

Students had to “cite their source” by showing the class where they found their word. If the word was found on a book or a flier or something that could be moved, it was placed on the document camera and projected on a screen, otherwise students just

pointed at its location in the room. At this point, the students engaged in a discussion about whether or not the word had the prefix they were looking for because there are some words that begin with the same spelling but that do not carry the morphological meaning of the prefix. To justify whether a set of letters is a prefix, I asked whether the word had the incorrect spelling or if the letter pattern was not at the beginning of the word. The more complicated thought process followed. If the letter pattern was correct, as a class the students had to figure out if the letter pattern carried the meaning of the prefix. The students and I went back to the poster to look at the meaning and wondered if it fit our search. For example, in one of our readings one student found the word *ingredientes*/ ingredients. She raised her hand and said she had found the prefix in which means no. Another student chimed in and asked *¿Que no tiene 'gredientes'?*/ That it does not have 'gredients'? Many students responded with a loud "No." Often this was enough to validate or negate the accuracy, but there were times when even I was not sure and I asked for my students' help. If the student and I could not figure it out I searched for it online. If the word found did match our search then it went on a class poster. I wrote Spanish words that contained the prefix on blue index cards while words with the prefix in English were written in green index cards (See Figure 4).

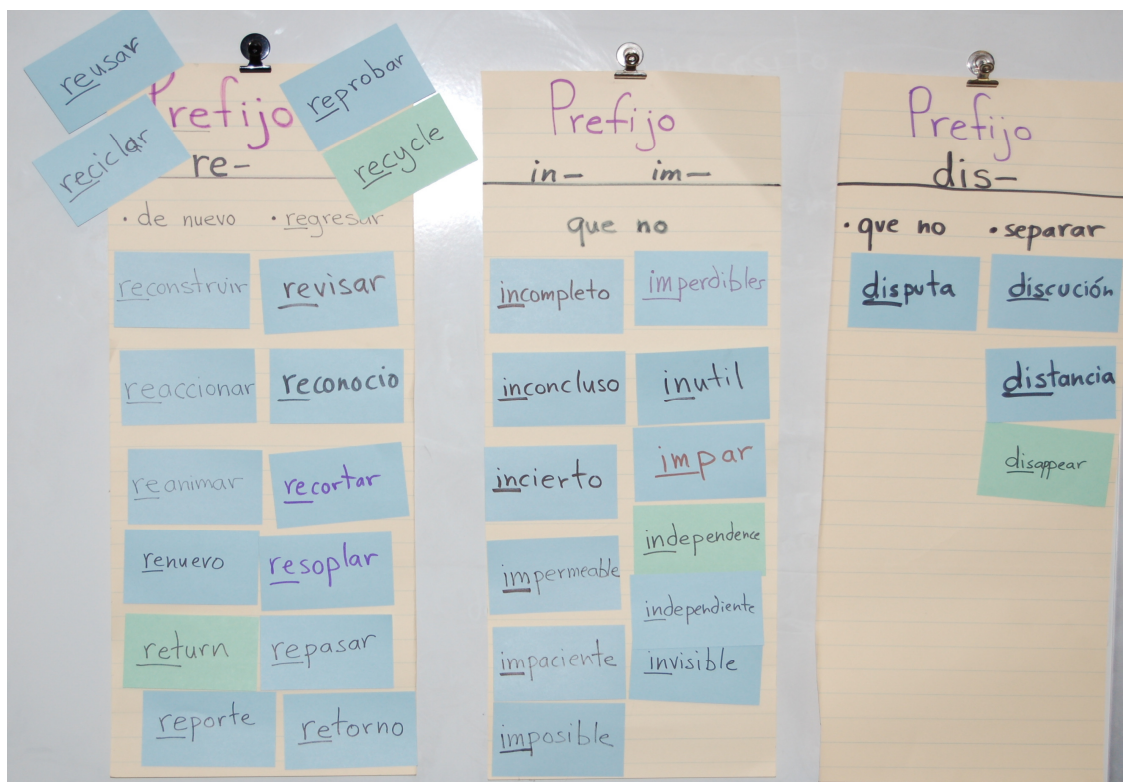


Figure 4: Sample of prefix posters with words found throughout our classroom

The student then placed an index card with the word and the underlined prefix on the class poster and students continued the search.

#### *Revisions Based on First Implementation of Prefix Detectives*

The Prefix Detectives started out with a lot of enthusiasm. All students participated and hunted around the classroom for prefixes. As the students moved down the list of prefixes and they became less common, fewer students were finding prefixes and interest began to wane. During Prefix Detective time students were wandering the room without actively looking at text or sitting down at their desk and just reading.

Also I began to notice the same small group of students grabbing the bell to report a found prefix.

The first implementation began the week before winter vacation. Upon returning from vacation we had one week off from the activities and then started up again. When it was reinstated, there was less excitement for the search because students did not look around the room with as much energy as before and the bell was not rung as often. I thought that it may be because the purpose of the activity had been forgotten and so I returned to the initial Power Point to remind students why we were doing the searches. Also, with the help of the students I made a class poster titled *¿Porqué estamos buscando prefijos?/ Why are we searching for prefixes?* I asked students to think about the question, to share it with their table partner and then share out to the class so that the students and I may use our collective knowledge to create the class poster (See Figure 5). Their answers were 1) to learn new words that we have not seen, 2) prefixes will help us learn words in English and Spanish, 3) if somebody does not recognize a word you can help by telling them what the prefix means and finally I added 4) to comprehend language we hear and read.

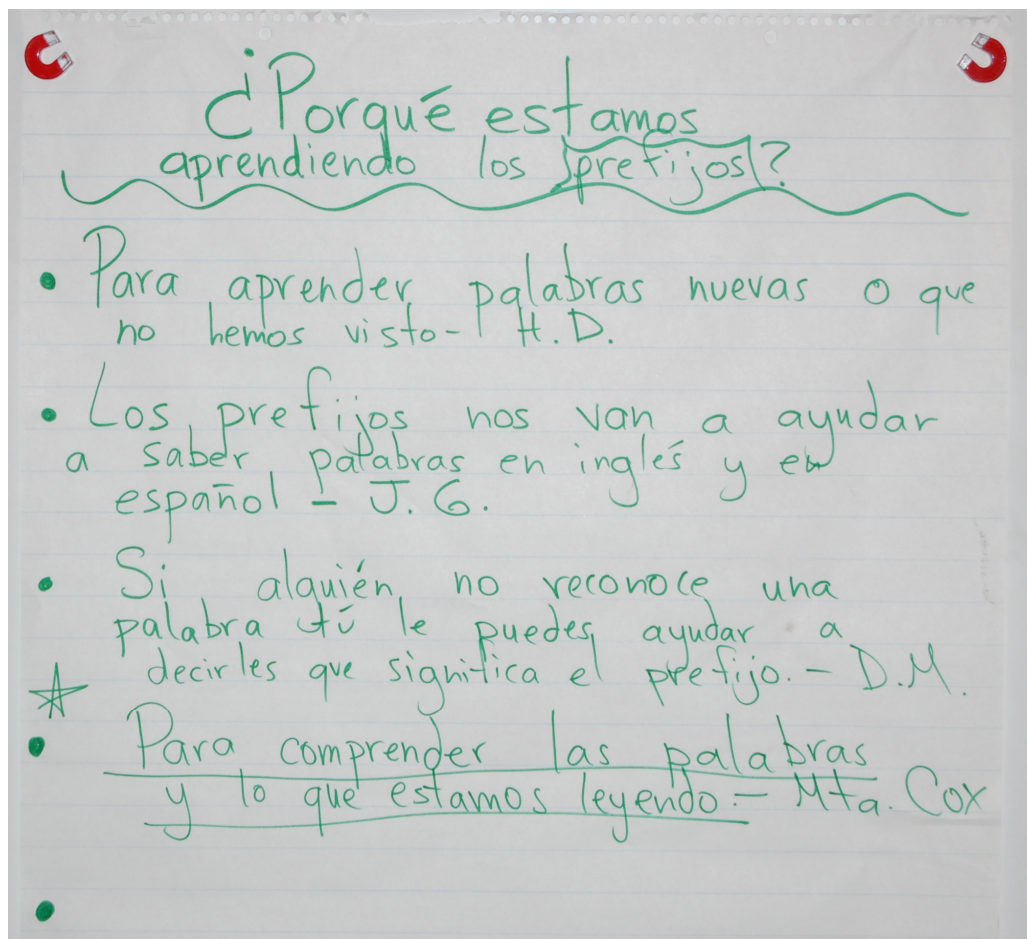


Figure 5: Examples of why students and the teacher believe they are searching for prefixes

After reviewing the reason why students were searching for prefixes it also came to mind that the students may need more reinforcement in finding their prefixes. Because only one student at a time could mention his or her prefix, it often took several days for students to explain the words they had found. For this reason, instead of having each child ring the bell and analyze the word at that point, I had students write the word with the prefix that they found on the large whiteboard. I also instructed students to write their initials next to their find so that they created ownership and we could ask the student who wrote it about their find and where they found it (see Figure 6).

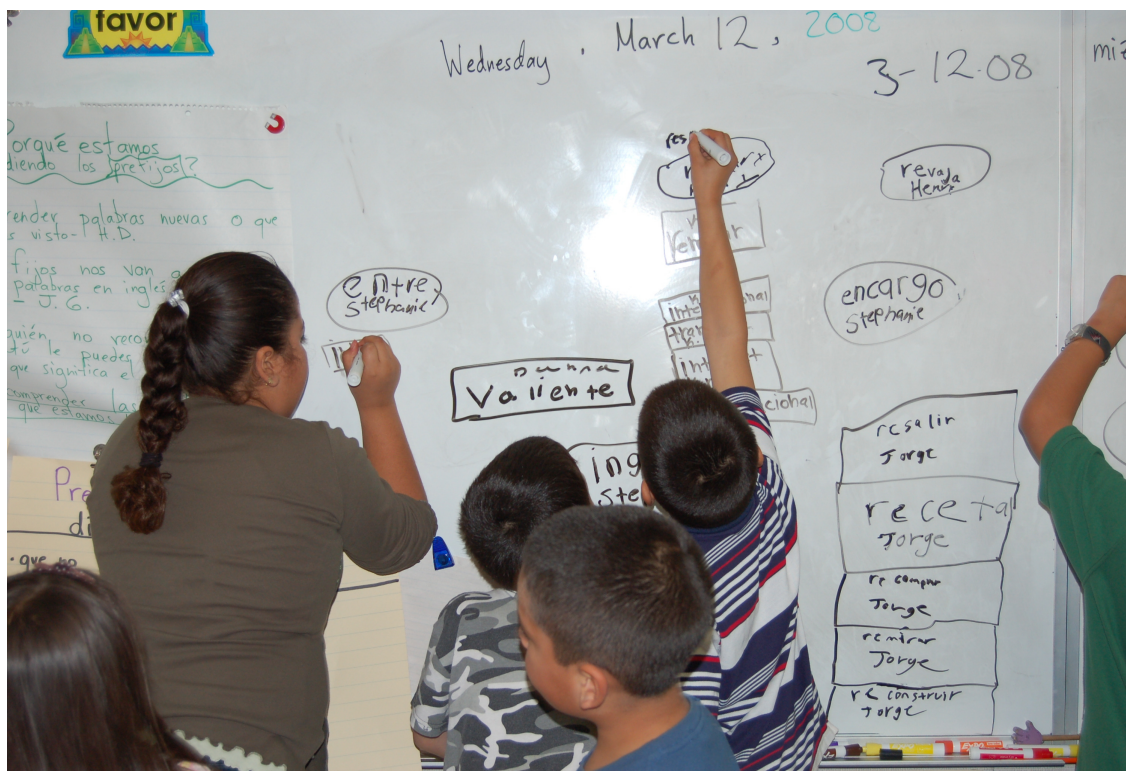


Figure 6: Example of students writing what they believe is a word with a prefix on the board. Personal photograph by author. March 12, 2008. Permission granted by parents to publish.

Five weeks later I began to notice that there was less and less space in the room to place the prefix posters and students needed to have a more confined place to post all of their prefix words. I decided to make a spiral bound book for them. The first page of the book is titled *Esos poderosos prefijos/ Powerful Prefixes* and emphasized how knowing the prefixes will augment the students' word power. The next page in the spiral bound book contains a table with six columns (See Figure 7). The first two columns contain the

same prefix; the first column is for the Spanish prefix, and the adjacent one is for the English prefix. The next two columns contain another prefix with the same orthography and meaning in Spanish and English and so on. Under each prefix the word *significado* or meaning and the rest of the column is used to write the meaning of the prefix and to draw a representative illustration of the meaning that makes sense to the students.







<b>Prefijo</b> <b>re-</b>	<b>Prefix</b> <b>re-</b>	<b>Prefijo</b> <b>in-</b>	<b>Prefix</b> <b>in-</b>	<b>Prefijo</b> <b>im-</b>	<b>Pefix</b> <b>im-</b>
<b>Significado:</b> <ul style="list-style-type: none"> <li>• de nuevo</li> <li>• regresar</li> </ul> 	<b>Meaning:</b> <ul style="list-style-type: none"> <li>• again</li> <li>• return</li> </ul> 	<b>Significado:</b> que no no 	<b>Meaning:</b> not 	<b>Significado:</b> que no 	<b>Meaning:</b> no 

Figure 7: Sample Prefix page of *Esos Poderosos Prefijos/Those Powerful Prefixes* book

Underneath this page is a table with six columns that correspond to the columns from the previous page. This is where students write their representative words with the prefixes they are learning. There are six rows in each column for six words. We included



many of the words from our class chart but also wrote down words that students came up with on their own. The first four slots were used for these words but the last two slots were purposefully left blank so that students could later look for words with prefixes on their own (See Figure 8).

<b>Español</b>	<b>Inglés</b>	<b>Español</b>	<b>Inglés</b>	<b>Español</b>	<b>Inglés</b>
reconstruir c	recycle	invisible ✓ c	insane	impar	impolite
regresa	return	impar	injustice	impermeable c	impermeable c
reaccionar	react	incompleta c	incomplete c	imposible c	impossible c
revista	reblow	incierto	inhuman	impaciente c	impatience c
repetir c	repeatruct c	incapaz ✓	invisible ✓ c		
reverso c ✓	reverse c ✓				

Figure 8: Sample of columns with words exemplifying our prefixes. Checkmarks denote words found at home or in the community. A circled 'c' denotes words that are cognates in Spanish and English.

After students finished searching the room for the first three prefixes I mentioned a concept that had not been made explicit before. Prefixes are not just found in the confines of the classroom but are also found in our communities and in our homes. The

students listed where they might find prefixes outside of the classroom. Answers ranged from the library to street signs to graffiti to the speech of their parents. All were great answers. I sent their spiral bound book home with them on a Friday so that they had two days to search for words with prefixes on their own. Their instructions were to find words with prefixes in their home and in their community and to place a check mark by the words that they had found at home (See Figure 9). The initial attempt was not very successful because only 5 out of 17 students understood the prompt and came back with good examples. The majority of them did not write words with the appropriate orthographical pattern or with the meaning of the prefix. I expected my students to be able to explain to their parents what their assignment was. The next week I sent the spiral book home and also sent parents a letter of explanation along with the Power Point I had shown students to explain what a prefix is and why we are learning about them (See Appendix).

As students began collecting words in our tables and we noted Spanish and English words side by side with the same prefix, one student came to a great conclusion: many of the words we find with the same meaning prefixes are also cognates, words that are spelled similarly and have the same meaning in Spanish and English. What a great way to proliferate our words in Spanish and English! At this point the students had already begun the Cognate Hounds activity described below. This is why the child who observed that the Spanish and English prefixes had the same spelling and meaning knew what a cognate was. The child who came up with this conclusion had been in my classroom last year, when I had a first and second grade combination class and she was one of my first graders. Her parents insisted she stay with me for her second grade year

and so the 2007-2008 school year was my second year with her. She is a very active learner, follows instructions well and often seeks to please. Because she pointed out that many of our words with prefixes in Spanish had cognates in English we began writing a 'c' in a circle below any word that had an English cognate (See Figure 9).

### *Implementation of Vocabulary Mapping*

Using word maps in our classroom was not a new idea. The students had previously used word maps while studying academic language in science. Students illustrated a select word and wrote it in a sentence after the class had reviewed a word in the textbook. There was also a class chart where students mapped words on a table and then noted the word, its definition, synonym, and antonym and drew an illustration. The new vocabulary maps were different from what students had seen before in four main ways: 1) students were to self-assess their understanding of the word in the map, 2) students wrote what they initially thought the definition was before being instructed on it, 3) students wrote down the synonym and antonym (separate from the page on which the definition was written), and 4) students drew a picture or wrote a connection between the word and their life.

Before beginning the mapping I had reviewed the language arts curriculum and focused on the key words introduced to students before they read a selection. The words found in the margins are words that may be difficult for them to understand during the reading. Students are tested on some of these words at the end of the unit, after reading three to four stories, to see if students have learned their meaning.

The words I selected to teach were those that fell into the Tier 2 or Tier 3 category according to Isabel Beck's scales (2002). I eliminated any Tier 1 words (those words that are quite common and do not require much instruction in school, such as "dog" or "cry"). I focused my selection on Tier 2 words (high frequency words that are used by mature language users, such as "develop," "graceful" and "celebration") and Tier 3 words (low frequency words commonly bound to a specific content area or topic, such as "Tai Chi," "herbalist," and "Kung Fu") instead. Tier 2 words occur commonly and were the best investment of my instruction time since students were likely to see these words again (See Table 6).

The words were also analyzed for their morphological distinction. I reviewed them to see if they had prefixes and suffixes that would create opportunity for good discussion. Finally, I looked to see whether the root word was productive and would be able to sprout many more words. Because as teachers we only have a limited amount of time to explicitly teach vocabulary it is important that we pick words that will generate other words (See Table 7).

Table 6: Analysis of Vocabulary Words from Language Arts Curriculum Based on Beck's Word Tiers

Vocabulary word in Houghton Mifflin 2 <sup>nd</sup> grade Spanish Lectura- Theme 3 Selection 1 <u>Barrio Chino</u>	Part of Speech	Tier 1 Word	Tier 2 Word	Tier 3 Word
ruta p. 229A	Noun		X	
en honor p. 229A	Transative Verb		X	
apartamentos p.233 & 236	Noun	X		
carretillas p.233 & 243	Noun		X	
celebraciones p.233 & 252	Noun		X	
mercados p.233 & p. 248	Noun		X	
reparto p.233 & 243	Verb		X	
restaurantes p.233 & 243	Noun	X		
comestibles p.236	Noun		X	
Tai Chi p. 238	Noun			X
gracia p.238	Adjective		X	
Zapatero remendón p. 240	Noun			X
Llegada p. 243	Noun	X		
Mercancía p. 243	Noun		X	
Favorito p.243	Adjective	X		
Medicinales p.245	Adjective		X	
Herboristería p.245	Noun			X
Moho p.245	Noun		X	
Hierbas p. 245	Noun	X		
Mariscos p.246	Noun		X	
Chisporrotea p.246	Verb		X	
Crujen p.246	Noun		X	
Repiquetean p. 246	Verb		X	
Cangrejos vivitos p. 248	Noun/Adjective	X		
Furiosos p. 248	Adjective	X		
Kung fu p.251	Noun			X
Desarrollar p.251	Verb		X	
Retumbante p.254	Adjective		X	
Serpentea p.256	Adjective		X	
TOTALS	N-18, Adj.-7, V-5	8	17	4

Table 7: Example of analyzing words for morphological distinction and roots words

<b>Word</b>	<b>Word Category</b>	<b>Prefix</b>	<b>Suffix</b>	<b>Root words</b>	<b>Word Category</b>
Bailarines p. 239	Noun			Bailar	Verb
Zapatero p.240	Noun			Zapato	Noun
*Remendon p.240	Adjective	Re- (Engl. to mend)		Mend	Verb
Mercancía p. 243	Noun			Mercado	Noun
Reparto p.243	Verb	Re- (dividir algo)		Partir	Verb
Repartidores p.243	Noun			Reparto	Verb
Carretilla p. 243	Noun			Carro	Noun
Carretilla p. 243	Noun		-illa (diminuti v)		
Herboristería p.245	Noun			Hierba	Noun
Medicinales p. 245	Adjective			Medicina	Noun
Bolsitas p. 245	Noun		-ita (diminuti v)		
Invierno p. 245	Noun	In- (que no es primaveral, ie.- vernal)			
Fortalecer p.245	Transitive Verb			Fuerte	Adjective
Chisporrotea p.246	Adjective			Chispa	Noun
Vivitos p. 248	Adjective		-itos (diminuti v)	Vivo	Adjective
Pataleando p.248	Verb			Patear	Verb
Movimiento p.251	Noun			Mover	Verb
Feriado p.252	Noun			Feria	Noun
Retumbante p.254	Adjective	Re- (repetición)		Tumbar	Verb
Serpentea p. 256	Adjective			Serpiente	Noun

The first time students looked at a word they went through the first row of the chart (See Figure 9). Students write the word and then they incorporate a metacognitive process by asking students to rate their understanding of the word. Students can choose among three categories and they mark an 'x' in the column that corresponds to how well they believe they understand the word. The first column is for a word that students have never seen. The second column is for words that students feel they have seen but do not understand. Students mark the last column if they can explain the word and use it in a sentence. Before the students marked an 'x' in the column that corresponded to their understanding, I gave examples of what it means to be able to explain the word and use it in a sentence. In particular a student cannot use a sentence such as "The bear ran." A more appropriate sentence would be one that would demonstrate understanding of the word such as "The Alaskan Brown bear catches salmon in the river." Students then proceed to write what they believe the word means and share several of their examples. The students had done work finding definitions in the dictionaries and in the glossary of our reading book. Our language arts work book also has worksheets that show them how a word is defined. I have found that the definitions that the students write tend to be synonyms of the word, which is a great start. I emphasized that some of their definitions are correct although they are not exactly the same as the dictionary definitions. In the last column students write the dictionary definition copied from the dictionary or in their own words. If they wrote it in their own words they had to check with me before they wrote it.

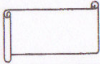
Palabra 	Nunca la he visto	La he visto pero no la entiendo	La puedo explicar y usar en una oración	Que <u>piensas</u> que quiere decir	Lo que quiere decir  Su definición
ventaja	X			Como que si juegas un partido de pelota	Algo que ayuda a alguien a obtener lo que quiere
asobro			X	Como que ves algo x te sorprendes	Algo que está sorprendente
reposar	X			Como que de duermes de nuevo	Mantenerse en quietud o calma
delicada		X		Como que alguien te dice que has	Algo frágil

Figure 9: Sample of Vocabulary Map

The next day the students come back to the chart and review the meaning of a word and then go on to the vocabulary map. For example, if the students and I are talking about the word *ventaja* or advantage, they would go back to their map, read the word together and then go back to the definition to remind themselves of what the word means. They then go on to the next page where one whole page is dedicated to one word (See Figure 10).



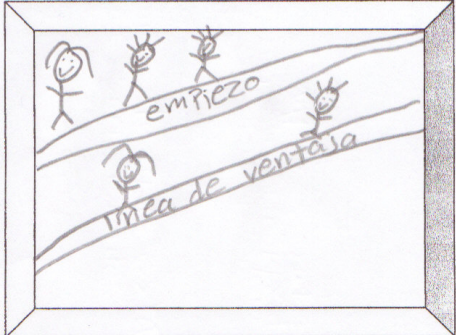
<p>• <u>Definición o sinónimo</u></p> <p>ganancia</p>	<p>Antónimo <u>desventaja</u></p>
<p><b>Palabra de vocabulario</b></p> <p>Ventaja</p>	
<p>Usa tú palabra en una oración-</p> <p>Porque empezamos a coleccionar pennies antes que otros tenemos la <u>ventaja</u> para ganar.</p>	<p>Dibuja la palabra o haz una conexión con tu vida,</p> 

Figure 10: Sample Page of Analysis of a Single Word

The vocabulary word goes in the middle, on the top left corner students write the synonym, in the top right corner we write the antonym. Up to this point the students have come up with the synonyms and antonyms on their own or I looked through the synonym and antonym dictionary and guided students through the process of locating the word in the dictionary. The bottom left corner has space for a sentence using the word. The students construct sentences together as a class. Students have the opportunity to share

ideas by speaking first to a partner and then sharing to the whole class. We figure out whether the sentence gives a clear idea of what the word means. Finally, the bottom right corner has a spot to draw a picture or to make a connection to students' lives. If a word does not have a synonym or an antonym the students write a sentence out to explain that in the space provided. For example, students wrote the word *cinta* or ribbon and noted that it does not have an antonym.

By guiding my students through the process of thinking about their own word knowledge and rating themselves on their initial understanding of a word, I hoped to foster metacognitive thinking in the students. The process of writing their own definition of what they believed the word meant gave students a clue as to how well they knew a word. I have already shared with my students that being able to teach others shows a great degree of mastery and that their initial definition was their way of trying to teach somebody else what the word means. If they had a hard time defining the word it merely meant that the word may not be clear to them yet and we have some learning to do. Also, by creating a single page in which students see the antonyms and synonyms of a word, I hoped that students would realize that there are greater complexities within words and there are different ways that words relate to each other. Finally, by having students write a sentence and illustrate or show a connection to their own lives, I hoped to show students how interrelated words are and the power that words have in showing and understanding their own lives.

*Revisions Based on First Implementation of Vocabulary Mapping*

The mapping allowed for a more in depth analysis of the words the students were studying. But after we mapped the word in the two pages they did not often return to them unless it was in passing as students encountered the word in another text. They needed more time and experience working with these vocabulary words.

In my classroom, thirty minutes is dedicated to small group instruction. During this time the majority of the class is working independently as I work with small groups of students. Students have a list of activities they have to complete in the allotted independent work time. One of these activities is a game using their vocabulary words that allows for multiple exposures to the words. Students are instructed to play with a partner to figure out what word their partner is trying to have them guess. The student giving the clues can use all aspects of the vocabulary map to give one clue at a time. For example a student may state the synonym, or the definition, or the sentence but leave a blank for the word. Students switch roles after the word is guessed or the student cannot figure out the answer after having been given all of the clues. This created greater contact with the words and gave a stage for students to play with words. Frequent encounters with new words help students expand their vocabulary (Beck, 2002). A student playing with words provides a stage for this play.

The exposure to the words in the word mapping activities gave students the chance to use four language skills areas: writing, reading, speaking and hearing, while being taught the new word. Students write the word at least three times, think about its meaning, and then find the dictionary definition of the word. This approach employs varied exposures, promoting the integration of new words into the student's vocabulary.

Research shows that multiple exposures over time helps students fully understand and use new words. Word games played in students' independent time was an effort to do this (Beck et. al, 2002).

### *Implementation of Cognate Hounds*

Our 2007 Macmillan/McGraw-Hill California Ciencias-science curriculum is replete with cognates, but what could I do to make them stand out to students? Before students began the search for cognates, I introduced the term cognate, impressing on them that cognates are similar in form and in meaning in Spanish and English. I wrote several examples on the board of words in English that they might know in Spanish because the orthography and meaning are so similar. I wrote the words car, apartment, verb and art. I then asked for volunteers to help me translate the words and find their cognates in Spanish. The Spanish cognates for these words are *carro*, *apartamento*, *verbo* and *arte*. Almost all hands were in the air as we came up with these answers and thus began what I hoped to be the lowering of the affective filter. The affective filter can block learning a second language due to negative emotions or attitude for those students that may have a fear of learning English (Krashen & Terrell, 1983). Showing students the similarities was my way of showing them that it may not be as difficult as they thought.

I showed my students two cognate dictionaries, Wood and Stovall's Spanish-English Cognates/*Cognados* and Spanish Roots 600 Spanish Cognate Words You (Almost) Know! and mentioned that there are tens of thousands of Spanish and English cognates. I have a handful of students in the classroom who express strong reactions when I begin a sentence with "This is going to amaze you..." or "You will not believe..."

Their typical reaction sounds something like this: “Whooooaaa!” and I am grateful for these reactions because they send a wave of excitement throughout the room. When I showed the class the size of the Spanish/English cognate dictionaries and the number of words in them, my regularly excited students who shout in amazement set the tone for everyone else as students saw that there were thousands of cognates. I opened to random pages and shouted out English words as they shouted back the Spanish cognate that I knew they would be able to translate the English words to their Spanish equivalents. With me leading, the students then decided that they would become ‘Cognate Hounds’ as they searched for cognates in our English science interactive textbook to promote reading comprehension.

The beginning of each science chapter has a list of key vocabulary (See Figure 11). The students began their search here. First they read the word and its definition to see if they understood it. Before moving on to clarify any difficulties in comprehension, they began looking for cognates. In this way students could now use their new strategy of using what they already know in Spanish to comprehend new words in English. When they found a cognate, we circled it and wrote its Spanish equivalent on top of it.






This was their introduction to becoming Cognate Hounds. Although the process may seem laborious at first, the ultimate goal is to have students well aware of the existence of Spanish/English cognates and to use the strategy of using their word knowledge in Spanish to help them comprehend and read English text. If a word is not familiar to them they should know that they can go back to their storehouse of Spanish words to try to decode its meaning.

**CHAPTER 1**

# Plant Life Cycles

**The Big Idea** How do plants grow and change?

**Vocabulary**

<b>flowers</b> the parts of plants that make seeds	
<b>pollen</b> a sticky powder inside flowers	
<b>fruit</b> the part of a plant that keeps seeds safe and helps them grow	
<b>seeds</b> the parts of plants that can grow into new plants	
<b>life cycle</b> steps that show how a living thing grows, changes, and makes new living things	

Handwritten notes on the page include: "Cognate Hounds" at the top right, "flore" next to "flowers", "Polen" next to "pollen", "fruto" next to "fruit", "Plantas" next to "plants", and "Ciclo" next to "life cycle". A drawing of a dog's head is also present on the right side of the page.


Figure 11: Sample of the Initial Key Vocabulary Page in Interactive Science Textbook with Spanish/English Cognates Circled and Spanish Equivalent Written on Top (Hackett, et al., 2008)

The appearance of cognates is so prevalent in their science book that students saw many pages where there were cognates circled in every line of a paragraph. Sometimes there were two or three cognates in one line. As they moved past the vocabulary page,

students searched for the cognates and then returned to read the text for meaning the second time. This was an initial look at the content with a low affect search for words that look familiar. When students return to read the text they had now been exposed to the cognates, the diagrams, and the photographs, and had a better understanding of the content they were reading.

The first three times students worked on Cognate Hounds I was in front of the classroom directing the activity. I asked the students to tell me what cognates they found and to explain the Spanish equivalent of the word. Together they found the words, circled them and wrote the Spanish cognate on top of the English word. After the third directed cognate hunt it was evident that the students had become great hunters and so I instructed them to go about it on their own. I put students in pairs making sure one student had a slightly higher ability to decode than the other. This pairing would ensure that one student was not overwhelmingly finding answers while the other was left to merely copy or give up. I assigned four pages from the science interactive textbook and had students find cognates, circle them and write the Spanish equivalent directly above the English word. At the top of each page students wrote the number of cognates they found on each page (See Figure 12).

Plantas  
 Most young plants look like their parent plants. Their flowers, petals, and leaves will have the same shape. Some plants, like tulips, may look a little different from their parent plants. diferente



▲ Tulips come in different colors. colores diferente

✓ **Quick Check**

II. What do sunflower seeds grow up to be?

---

12. How are young plants like their parents? Plantas

---

Figure 12: Sample of Student Going Through the Interactive Science Textbook to Find Cognates. The Total Found is Written at the Top in a Circle. (Hackett, et al., 2008).

The first time the students went cognate hunting on their own was the most exciting for me. There is a student in my class who recently arrived from Mexico. His



CELDT (California English Language Development Test) score is at the beginning level. This is understandable because he had not had any previous instruction in English before coming to our school. He is in the pre-production, silent period during English class. He takes in information but does not participate and does not often make eye contact during English class. As students began our cognate hunt he was the first student to come up to me and say “*Maestra ¿cuál es el cognado de oceano?*”/ “Teacher what is the cognate for *oceano*)?” His reaction was surprising to me in two ways. First because the text he was reading was in English so he had already figured out that ocean means *oceano* in Spanish. This led me to believe that he knew the answer to his question but wanted to demonstrate to me that he got it. The second surprise was the direct eye contact and confidence with which he asked me the question. It was a joy to see because he did not participate well during English class.

#### *Revisions Based on First Implementation of Cognate Hounds*

Although students were getting better at finding cognates in their science books, I found that they were transferring this skill to ELD (English Language Development) class as well. It is a bidirectional relationship as I am seeing students in English class comment on Spanish cognates and students in Spanish class comment on English cognates.

I should have kept better track of the cognates we found and possibly created a class chart to display them. I also wanted students to present cognate finding to their parents during Spring Open House and explain to them the important strategy of thinking about and looking for cognates.

## VII. Evaluation of Bilingual Word Detectives

I had three goals in mind for the Bilingual Word Detective curriculum: 1) an academic goal, 2) a social goal, and 3) a goal to lower the affective filter in my students. The academic goal was focused on whether students would be able to identify and reproduce the word decoding skills presented to them. The social goal was to create a community of academic language learners in the classroom where we learned from each other and created a working classroom knowledge base. The goal to lower the affective filter sought to make students feel comfortable not only in being able to use these word decoding skills but in seeing that Spanish and English have many similarities that will help them in learning both languages. These three goals were subsumed in the overarching goal of having students be metalinguistically aware in both Spanish and English.

*Goal 1: Academic- Improve word decoding skills in Spanish and English bilingual students*

One of the main goals for this curriculum was to increase the ability of students to decode and analyze words in Spanish and in English. This ability would eventually help students not only figure out words but also comprehend text in both languages. Comprehension of text is the main academic area of concern for teachers and administrators at my school. In tests such as California Standards Test (CTS), Standards-based Test in Spanish (STS), and Houghton Mifflin theme tests, students score lowest on reading comprehension questions.

### *Method of Assessment*

In order to measure the success at which students were able to decode words and use the word decoding skills presented to them, I employed several data collection strategies. To find evidence that students recognized words that contained a prefix, I had students write the words they found in all parts of our classroom on the large white board in front of the classroom. I analyzed who participated in the Prefix Detective activity and whether they wrote down words with correct prefixes on the board. To further analyze recognition of prefixes, I used the students' Prefix Logs, paying particular attention to students' entries made outside of the classroom and in their home or community. For the Cognate Hound activity, I noted the cognates students were able to recognize in a several pages of their English science text. Students were asked to find the cognate, circle it, and write the Spanish counterpart right above it. I catalogued how many cognates students were able to spot and translate. For the final activity, Vocabulary Mapping, I tracked student's progress on their monthly language arts test and compared pre implementation scores to post implementation scores as well as to the scores from previous years.

### **Findings**

*Prefix Detectives.* The Prefix Detectives was one of the most popular activities of this curriculum. Students asked for it when we missed a day of doing this activity and also asked for the activity to continue when the implementation period was over. To analyze the last Prefix Detectives activity of the implementation, I gave them 15 minutes

to search the room for prefixes and write their findings on the board with their initials  
(See Figure 13).



8). The majority of the text in our classroom is in Spanish but our classroom library is half in Spanish and half in English. I was pleasantly surprised that there were some entries in English.

*Prefix Logs.* I analyzed the Prefix Logs of 15 of my 18 students. Three students were not able to locate their Prefix Logs after having taken them home. Although this was frustrating for me, one of the students who lost it mentioned that it was because he had taken the work with him to Mexico and left it there. His mother verified this information and mentioned that they had found some prefixes while in Mexico. The other students simply did not return them and could not find them.

After students were instructed on the meaning of a prefix and they did the Prefix Detectives activity at school, I asked students to take their Prefix Logs home and to look in their home and communities for words that had the prefixes in them. Students were only responsible for three prefixes at a time when the logs were sent home. The first time the log was sent home students looked for words with the prefixes, re-, in-, and im-. In addition, I asked students to mark any Spanish and English cognates with the letter 'c' if they came upon these.

Table 8: Culminating Prefix Detectives 3/12/08

Student	Word Found Spanish	Word Found English	Correct use of prefix learned	Incorrect use of prefix learned
S.R.	entre			I
	valiente			I
	ingredientes			I
	encargo			I
	repasar		C	
K.M.	inutil		C	
	impar		C	
	rematar		C	
	internacional		C	
	trascito		C	
	internet		C	
L.H.	regalaron			I
	respondieron		C	
D.M.	recontrastes			I
	disgusto		C	
	valiente			I
H.D.	responder		C	
	recortar		C	
	revaja		C	
P.G.	prediccion		C	
	presidente			I
J.R.	resalir		C	
	receta		C	
	recomprar			I
	remirar		C	
	reconstruir		C	
P.G.	imposible		C	
	recortar		C	
	recordar		C	
J.G.		repay	C	
		reuse	C	
S.J.	reposar		C	
B.G.	distraidos		C	
		recalled	C	
J.T.	reglaron			I deletes the initial a in speech
	ineasidl			I illegible
Total:12	33 Spanish	3 English	C= 25	I=11

The prefix re- meaning repeat or again, is the most common one in the English language. Not surprisingly students were most successful at finding words with this prefix. Out of the 14 Spanish words recorded by students, 10 were words that correctly contained the prefix re- in Spanish (See Table 9). Five words were recorded in English and three of them correctly had the prefix re-. Of the total 20 words written in the Prefix Logs, 14 had the correct prefix in a word (70%). Three of the words, *repetir*, *reverse*, and *construcción*, were correctly marked as having a cognate in English. *Construcción*, did not contain the prefix re- though. There were no incorrect markings of cognates



Table 9: Words with Prefixes re- Found at Home

Student	Prefix re-word Spanish	Prefix re-word English	Cognate	Correct	Incorrect
H. D.					
P. G.	repetir	repeat	X	XX	
P. G.	construcción	contruction	X		XX
B. G.	reverce	reverse	X	XX	
	resoplar			X	
J. G.	recortar			X	
L. H.	reconoce			X	
S. J.		repeat		X	
J. L.	reposa			X	
	repoder*				X
	rapido	rearding (rereading)		X	X
	inpaciente				X
K. M.	revisas			X	
D. M.	resoplar			X	
D. R.		reblow *			X
S. R.	revisa			X	
J. R.	rebisar			X	
K. T.					
A.V.					
Totals. 15 students	14	6	3	14	6

The findings for the words with the prefix in-, meaning not, are very similar to those of the prefix re-. Twenty one words were found in all (See Table 10). Fourteen of these words were in Spanish and nine of the words correctly had the prefix in-. One student wrote the word *importante*/important and got the incorrect prefix for this column. Of the seven words found in English three words had the correct prefix in-. The students found four cognates and three were incorrect examples with the prefix in-. Despite this, three of the cognates marked were, indeed, cognates. Three different students recorded the correct cognates, *importante*/important, *criatura*/creature, and *incredible*/incredible. The last cognate was *incuento*/inbook, which is not a word in English or Spanish.

Table 10: Words with Prefix in- Found at Home

Student	Prefix in-word Spanish	Prefix in-word English	Cognate	Correct	Incorrect
H. D.					
P. G.	importante	importate	X		XX
P. G.	criatura	creature	X		XX
B. G.	incapaz			X	
		invisible		X	
J. G.	incredible	incredible	X (but didn't mark it)	XX	
	incuento	inbook	X		XX
L. H.					
S. J.					
J. L.	indicaba				X
		insolation		X	
	inciendios			X	
		incomplete		X	
K. M.					
D. M.	inasticia (injusticia)			X	
D. R.	injusticia			X	
S. R.					
J. R.	revisa			X	
K. T.	informal			X	
	injusto			X	
A.V.	inesperado			X	
	insolente			X	
Totals: 15 students	14	7	4	14	7

The last prefix students looked for in this search at home was the prefix im- meaning not. Nineteen words were found in all. That is, 11 of the words were in Spanish eight words in English (See Table 11). Five of these were correct representations of the prefix im- 14 were incorrect. There were six cognates correctly found but only two of them had a word with the pre

Table 11: Words with Prefix im- Found at Home

Student	Prefix im-word Spanish	Prefix im-word English	Cognate	Correct	Incorrect
H. D.					
P. G.	importante	importate	X		XX
P. G.	contraespionaje	counterespionage	X (but didn't mark it)		XX
B. G.	restaurante	restaurant	X (but didn't mark it)		XX
J. G.	impaciencia	impacience	X (but didn't mark it)	XX	
	imcuaderno	imbook	X		XX
L. H.					
S. J.					
J. L.	importante	important	X	XX	
	impresora				X
		imperial			X
	construccion spelled – castrusion	construction spelled-costricnen	X		XX
K. M.					
D. M.					
D. R.	revisa				X
S. R.	imporatnte			X	
J. R.	injusto				X
K. T.					
	11	8	6	5	14
A.V.					
Totals: 15 students					

### *Cognate Hounds*

The Cognate Hound activity was implemented for five days over a two month period. The purpose of the activity was to find cognates, words that have the same meaning and spelling in English and Spanish. In the culminating activity, I had students look through four pages of their interactive English science book. They could write in this “interactive” book and when they found a word in English that had a cognate in Spanish, I asked them to circle it and write its Spanish counterpart directly above it. There were 25 cognates on these four pages and many of them were repeated (for example on the first page the English/Spanish cognate ‘plants’ was written five times and the cognate ‘flowers’ was written twice). The cognates were not only located in blocks of text, but in the title, in diagrams, and in captions under pictures. I instructed students to look everywhere. Fourteen students participated in this activity and they were given 10 minutes to individually find all of the cognates they could in these four pages. Out of the 25 cognates, one student found 23 cognates (92%), four students found 20-22 cognates (80-88%), two students found 18-19 of them (72-76%), five students found 15-17 cognates (60-68%) and two students found 0-14 cognates (0-54%).

### *Word Mapping*

Word mapping consisted of two activities. The first was when students wrote the new vocabulary word, graded themselves as to what level they felt they knew or did not know the word, wrote what they thought the definition was, and then wrote the dictionary’s definition to verify their own. The second activity was on the next day, during which I asked students to take one word at a time and write out its synonym and

antonym, use the word in a sentence, and illustrate the word meaning or connect it in some way to their personal lives. If students finished their language arts work quickly, one of the optional activities they could work on was to look over their vocabulary words with another student and give clues to their partner to help them figure out what word they are talking about. In a one week period, of the three activities students could pick after finishing their work, students always chose this as one of their activities.

### *Houghton Mifflin Vocabulary Tests*

I administered Test 1 after introducing students to the words just as the language arts curriculum outlines. My district's grading system has four level bands: below basic, basic, proficient, advanced. Students are considered below basic if they correctly identify five or fewer questions out of 10 possible. They are considered basic if they correctly identify six or seven out of 10. Students are considered proficient if they score eight or nine out of 10 and advanced if they score 10 out of 10. The vocabulary test has four sections: one for synonyms, one for words that have multiple meanings, one for words where students use context clues to determine word meanings, and one that tests students' understanding of antonyms. In Test 1, 6% of students scored at an advanced level and 22% at a proficient level. Seventeen percent scored basic while the majority, 56%, scored at the below basic level (See Figure 14).

To prepare for Test 2, I taught the vocabulary words tested just as the curriculum directs teachers to teach it. Students were also asked to repeat the word and after I gave a definition they were asked to speak to a partner about the meaning of the word. Test scores improved in Test 2. The same percent (6%) of students scored at an advanced

level, 39% scored at a proficient level, 28% scored at basic level and 28% scored at a below basic level. After Test 2, I began the implementation of word mapping the vocabulary words and having students study them if they chose to after finishing their other work. Test 3 scores markedly improved. Thirty-three percent of students scored at an advanced level, 50% of students scored at a proficient level, 6% of students scored at a basic level and 11% scored at a below basic level. The implementation continued during Test 4 and it showed a slight drop. Twenty-two percent scored at an advanced level, 44% scored at a proficient level, 22% scored at a basic level, and 11% scored at a below basic level. Of the eight words we studied during the Word Mapping implementation period, four were from Test 3 of the Houghton Mifflin theme tests and four were from on Test 4.

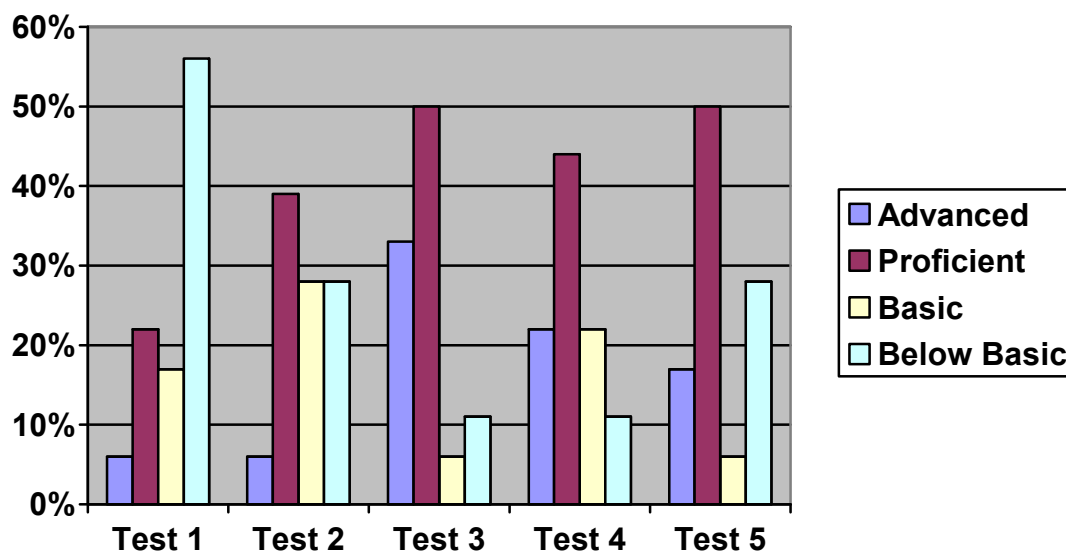


Figure 14: Vocabulary Tests Scores for Houghton Mifflin Theme Tests 1-5

## Discussion

### *Prefix Detectives*

I allotted the Prefix Detective activity just a few minutes every day but it was one of the most well-liked activities in the classroom. Initially it was an activity for all students to discuss whether words contained a prefix, as well as the meaning of the prefix. After a month's practice of this activity, students continued to search the room and write the words they found on the board. This process was far less threatening for the students who did not like to be singled out in front of the class through the initial bell ringing activity where they were asked to explain their reasoning in front of the class. When students wrote on the large white board, there were so many words that I no longer asked students to cite where they found the word. Rather, I called students together for an impromptu discussion about whether the word contained a prefix and what that prefix meant. More students had the opportunity to participate when they got to write on the large white board. I was pleased with the level of accuracy with which students were able to locate words that had prefixes. Sixty nine percent of the words on the board correctly had a prefix we had studied. In addition, 32 out of the 36 words written on the board contained the spelling pattern of a prefix I had taught students (88.8%). This data suggests that the students have largely learned to identify the spelling pattern of certain prefixes, even though I could have devoted additional instructional time to whether the spelling pattern actually contains the meaning of a prefix.



There was a similar outcome in the Prefix Log activity, where students took their logs home, to the prefix search in the classroom. Of the 20 words students found at home that had the prefix re-, 14 of the words actually contained the prefix (70%). At school, students were correct 69% of the time. This is an interesting outcome, in that I expected the percentage at home to be higher because students would ideally have the help of their parents in finding prefixes. With students' homework, I included a letter and copies of the Power Point presentation slides I used with students in class. They had several weeks of finding prefixes by this time and should have been able to explain to their parents the meaning of a prefix. It is possible that the effect of the help from the parents could have been lessened by the lack of printed resources at home. Also, the prefix re- is the one most commonly found in English and in Spanish. The search for the prefixes in- fared similarly and im- did not fare as well.

The next most commonly used prefix in English is in-. In the home search for prefixes to write in the Prefix Log, students were able to find 14 words and nine of them correctly contained the prefix (64.2%). The students fared much worse on the last prefix (im-). Nineteen words were found but only five contained the prefix correctly (26.3%). Part of the reason that the prefixes in- and im- fared less well may be because they are less commonly found. It is less fun to find these for the students who are not persistent and will give up if they do not find the success they found initially. Also, it was the last prefix to look for in the set of three, so there may have been some resistance to finish this homework.

*Cognate Hounds*

The Cognate Hounds was one the simplest of the three activities. It required students to identify words that looked like words they recognized in Spanish and did not require much analysis or synthesis. The main purposes of it was 1) to make students aware that the Spanish and English languages share common roots and 2) that there are words in English that will look the same or similar to words in Spanish and will also have the same meaning.

Because of the number of absences in our school and in my classroom, out of 18 students, 14 participated in the search for cognates. There were 25 cognates in the science book. Half of the students found between 72%-100% and the other half found 54%-68% of the cognates. Just one student found 92% of the cognates and the lowest percentage was 54%. There were several cognates in diagrams, headings and labels rather than within blocks of text and this may have accounted for the low number of cognates found.

### *Word Mapping*

I administered six Theme Tests in the Houghton Mifflin curriculum every three to four weeks. There was a jump in students' vocabulary scores from Theme Tests 1 and 2 to Tests 3 and 4. I began the Word Mapping implementation when students were working on Theme 3 and continued to Theme 4. There was a jump in the number of students who scored advanced or proficient in Theme test 3 and 4. The word mapping activities and the greater amount of time and skills dedicated to the learning of many of the words that specifically were on the test may be the reason for the increase. The Word Mapping activity gave a framework for students to study words and exposed students to these words many more times than what the curriculum states.

I gave students the same instruction in Theme test 5 as in Themes 1 and 2 at the beginning of the school year. I wanted to see if any of the strategies I had introduced to students had been helpful to them for learning new vocabulary without my explicit guidance. Theme 5 test scores were much higher than Theme 1 or Theme 2 scores. This change suggests that students could be successfully tested on their knowledge of vocabulary or vocabulary skills, after the scaffolding word mapping had ended.

*Goal 2: Social - Create a community of academic language learners in the classroom*

My school uses the Peace Builder program throughout the year to promote social skills and peaceful ways for students to interact with others. Every morning we recite the Peace Builder pledge in which we promise to be kind, to seek wise people when we need to and to help others. The implementation activities incorporated many features of the Peace Builder program in that students help each other find words and find meaning in words together. These commonalities between the social curriculum program and my implemented activities made for an easy transition for students.

The community in the classroom was enhanced by the Bilingual Word Detective activities in that all activities contained a component that required students to find knowledge with each other, in pairs, as a class, or on their own. All initial meaning building was constructed together as a whole class and later students constructed meaning with each other in pairs or group work. The main methods of creating a community of learners in which learners contribute to improving their collective knowledge by engaging in academic discourse was through the Prefix Detective searches with groups, in the discussion of words to see if they contained prefixes (Lee, 2004; Wells, Chang &

Maier, 1990). Also, in the classroom we had the communal posters with examples of words with prefixes. The students engaged in a class discussion to figure out if the word fit on the class poster. Furthermore, the community of learners was expanded to include the students' families when students searched for words with prefixes at home or in their community. In the Cognate Hound activity, we had whole class searches and partner searches before we went on to individual searches. In the Word Mapping activity students shared their initial definitions of words with partners. Students were allowed to change their initial definitions if they decided to add to or change their own definition after discussing it with their partner. Also I always asked students to share their examples of sentences with the vocabulary word and also share their connections to real life.

At the end of the implementation, and even beyond the implementation, students took the skills taught to them and continued to use the word decoding strategies on their own. In all three Bilingual Word Detective activities students went through a process in which I was initially guiding the lessons and gradually gave full autonomy to the students. Based on the comments I heard students make, several of them went on to create knowledge in a true community of learners' fashion in which I did not have to be a part. Students created an autonomous community of learners in the classroom and beyond.

### **Method of Assessment**

I do not have the quietest classroom on campus. After a lesson and during individual work time, students are free to speak about their work to me and to each other.

At the beginning of the school year the students and I often discussed and defined “appropriate talk” during work time. Because students can speak to each other during work time I hoped that I would hear evidence of their word analysis skills while they spoke to each other. I walked around the classroom, listened and took notes while students worked to see if while they spoke to each other and whether they mentioned word analysis skills. I took field notes to keep track of who was speaking, features of the context during which their conversation was heard, and whether they spoke about prefixes, cognates or vocabulary. I also took note of when they spoke directly to me and used these same skills.

## **Findings**

The Prefix Detectives activity is founded on the idea that students should use the knowledge they already have about language structures to find meaning in new words. In the first couple of weeks of implementation students were to ring a bell as everyone else listened to one student speak about the word they found. Then I would say whether that word contained the correct prefix and explain why. Gradually, as students became more comfortable with the process of finding prefixes, all students got the opportunity to write their word on the board and the analysis as to whether a word contained a prefix or not was handed over to the students. I had the final say as a facilitator and if students did not know where to begin in analyzing the word, I provided assistance. Students had to rely on the skills given to them through the previous lessons to analyze the words. Students spoke to each other to verify and find meaning in prefixes. They were becoming an

autonomous community in which they relied on each other when they needed help. This also helped lower the affective filter because it gave students an opportunity to share with a partner before we shared as a whole. Then the whole community of learners in the classroom would come together to create knowledge by deciding whether to place a word on the poster or not.

Here is an example of what the conversation was like when we analyzed words together as a class:

Ms.Cox: *Aquí tenemos la palabra ingredientes. ¿Esta palabra tiene el prefijo in-?/ Here we have the word ingredientes. Does this word have the prefix in-?*

Students were silent

Ms.Cox : *¿Qué quiere decir el prefijo in- ? / What is the meaning of the prefix in-?*

L: *Que no/ Not*

K: *¿Pero qué es un grediente?/ But what is a gredient?*

Ms. Cox: *Piensele y platiquen con su compañero. 10 segundos/ Think about it and talk to your table partner. 10 seconds.*

Ms. Cox: *Vamos a votar. ¿Quién piensa que aquí in- quiere decir que no?/ Lets vote. Who thinks that in- means 'not' here?*

Students vote with thumbs up or thumbs down to show whether the word ingredients has the prefix in-.

Ms. Cox: *¿Lo ponemos en nuestro póster?/ Should we put it on our poster?*

Class: *!No!/ No!* Once students had seen the pattern of discussion, they talked more. One of my lowest achieving students in language arts and math became increasingly involved in discussions about prefixes as the

implementation went on. Because of her growing participation, I wanted the class to hear her thought process. During a Prefix Detective activity she wrote the word *balanza*/balance on the board. As a class we analyzed and acknowledged all words that were written. The discussion went like this:

Ms Cox: *Pláticanos sobre tu palabra y por qué piensas que tiene un prefijo.* Tell us about your word and why you think it has a prefix.

S: *Aquí dice lanza....como.../* this says ‘lanza’...like....[shows me the arms teetering from one side to another as I do to explain balance in math class].

Ms. Cox: *O, que interesante, pero no se si estén relacionados. ¿Qué piensan ustedes?* Oh, very interesting, but I’m not sure if they are related. What do you guys think?

J: *‘Ba’ no es un prefijo, ni ‘balan’.* /‘Ba’ is not a prefix and neither is ‘balan’.

S: *O, si..../* Oh, yeah.

S was not dissuaded. She continued to find words and ask about whether they contained prefixes throughout the school year. Her interest in the Prefix Detective activities was evident in her comments throughout the implementation. The students got to choose books from the library every week to have at their desk. While picking a book S commented, *“Maestra hay mucho prefijos en el cuento de la ratita.”* / “Teacher there are a lot of prefixes in the story of the little rat.” Three months later her comments were more concentrated on analysis rather than on simply spotting the prefix. As a class, we came across one of our vocabulary words in our text. I asked the class, *¿Cuál es el antónimo de penalidad?* / What is the antonym of penalty?”. S replied *Despenalidad/ Despenalty*. In the same text we came across the word public, which was another

vocabulary word and I asked, *¿Cuál es el sinónimo de público? Es un cognado./* What is the synonym of public? It is a cognate. S answered *A, si es audiencia/* Oh yes, it is audiencia. I asked, *¿Cual es el cognado en ingles S?/* What is the cognate in English S?. She replied *Es como audiencia./*It is like *audiencia*. Her reply indicated to me that she knew that a cognate was a word that was similar in English. Despite her low scores in language arts she was doing a great job of analyzing words and was almost always participating in word analysis activities with enthusiasm.

I was very interested in documenting whether my students would take the word analysis skills presented to them through the Prefix Detectives, Cognate Hounds and Word Mapping and, of their own volition, would discuss words or use strategies taught to them. I documented instances in which students spoke to other students or to me, outside of a Bilingual Word Detective lesson. The following are examples of students speaking to each other about words without any prompting from me.

H excitedly turns to P as they wait for me to set up the writing lesson and says, *Podemos buscar prefijos./* We can look for prefixes. P responds with a question, *¿Podemos buscar prefijos?/* Can we look for prefixes? And then they both turn to me to ask *¿Podemos buscar prefijos?/* Can we look for prefixes?. They wanted to use up the waiting time with a prefix search.

Students were also using word analysis skills learned from vocabulary lessons in other subject areas. In a language arts lesson I was talking to students about the meaning of the word *penalidad/*penalty. P used her background knowledge to try to make sense of the word. She uses the root of the word to analyze it. P turns to L as I continue the lesson



and says, *Como pena*./Like grief. L, who plays soccer outside of school, made a reference to the sport to find meaning in the word. *Penal de futbol*// Penalty like soccer. J and B were enthusiastic about the Word Detective activities. In this example they use strategies from Prefix Detectives and Vocabulary Mapping. After J and B picked the library books they got to read for the week they sat down to read together. While reading one of their books J tells B, *Embarcar, desembarcar. !Es un antonimo!* Embark, disembark. It is an antonym! B makes a note of a prefix he recognizes, *!El prefijo des-!* / The prefix des!. The students had not explicitly studied the word embark or disembark with me. Both students took skills from the activities beyond the vocabulary they had learned in class. Other students used the words we directly learned in class in conversations they had with each other. We had recently learned that the words ‘just’ and ‘impartial’ are synonyms and while we searched the room for prefixes, J turns to K to tell her, *No es justo que busquen en el mapa de pefijos.* /It is not just that they look through the prefix maps. K uses a word they studied in their Word Mapping and replies, *No es imparcial!* It is not impartial.

In other instances, students successfully identified cognates. The Cognate Hound activity had in mind two goals. The first one was to identify cognates and the second one was to translate it. The next two examples illustrate the first goal. During an English lesson I wrote the words cause and effect on the board. S excitedly turned to me and said in incorrect English, Is like Spanish! K identified the activity where we use that strategy and shouted, Cognate Hounds! In a similar incident, but one in which I was not part of the conversation, J softly spoke to one of her classmates. As the students and I were

reading a story in English class, J turned to a classmate and told him in English, I see a cognate.

Students excitedly used each other and me to analyze words and their meaning using the Prefix Detective skills. I heard stories from parents about students' independent search for words and prefixes beyond classroom assignment requirements. The community of learners moved beyond the classroom walls to include parents and siblings as well. The following two stories most poignantly illustrate students who took the word analysis skills beyond the classroom community to take home to their parents and beyond.

Larry is a seven-year-old boy who was very shy at the beginning of the school year. He would not talk much in class or raise his hand. As the school year progressed his mother would often come speak to me about him and his progress. Larry had grown up in a ranch in Mexico and I would almost always refer to him as the expert when we spoke about farms in the classroom. He knows more about horses than I do. One day, during the implementation of the Prefix Detectives, Larry came into the classroom with the prefix re- written on the inside of his hand. There was dash after the 'e' just as we wrote it in class. As I walked around the classroom checking student's work I noticed it and quietly asked him what that was. I asked him if it was a prefix. There had not been any prefix homework for the past two months. Despite my questioning Larry had the custom of just looking at me when he did not know how to respond. After a little bit of waiting I directed him back to his work and he seemed relieved. Open House was just around the corner and I knew I would get a chance to speak to his mother about the elusive prefix on

his hand. The following is the conversation I had with Larry and his mother regarding the prefix on his hand.

Ms. Cox: *Le tenía una pregunta sobre algo que paso en el salón. El otro día Larry llevo con el prefijo re- escrito en su mano. ¿Me pudiera platicar sobre eso?* / I have a question for you about something that happened in the classroom. The other day Larry came to class with the prefix re- written on his hand. Could you talk to me about that?

Larry: [To mother] *Fue el día que los sacamos del diccionario* / It was the day we got them out of the dictionary.

Mother: *Ah, si. Me tuvo despierta toda la noche mientras buscábamos palabras con el prefijo re-* / Oh, yes. He had me up all night looking for words with the prefix re-.

Mother: *Me dio muy interesantes nociones de aprender el inglés.* / It gave me some very interesting ideas about how to learn English.

In a similar story, Princess came into the classroom as a student that other teachers had been concerned about. While walking the halls of the school, two teachers would often ask me about her progress. This struck to me as somewhat curious because Princess was a very enthusiastic student in my class and was at grade level if not above by the end of the school year. Her enthusiasm for school spilled into the Bilingual Word Detective activities. One day Princess came to class and seemed a bit drained of her typical energy. At the beginning of the day we get to share stories and I was expecting that she would want to share. She began by telling us that her story was sad. She and her family had to go to the hospital the previous night because her two-year-old brother was not well. She related to the class that she had been scared. Then she told the class that she and her mother began to look for prefixes around the hospital to pass the time. I am not

sure if she lit up because I lit up but her expression became more enthusiastic when she told us that there were prefixes everywhere. I asked her if she remembered any words specifically and she told me that she and her mother had written a word down. That same day after school I asked her to ask her mother for the paper if she had it. As I was dismissing students she left and came back running with a small three by two inch lined paper with the word 'inconvenience' written on it with her own writing. The prefix in- was underlined. I was absolutely thrilled. Throughout the year, this family came back to me with four long lists of words with prefixes underlined. I am not sure where they found these words but I was very glad that they understood the concept and were including this academic search for words in their own family time beyond any assignment given by me.

## **Discussion**

Before the implementation of the Bilingual Word Detectives, there was no talk in my classroom that concerned prefixes, parts of words, cognates, or the words we learned in our vocabulary mapping and other activities. The community of academic language learners in the classroom continued well after the implementation period as students continued to look for and point out words and speak about word analysis skills. These activities engaged students academically in the classroom and were also taken outside the classroom with the Prefix Logs.

The class community was one in which the Bilingual Word Detective activities were continued beyond the time allotted for instruction in class and beyond the

implementation period. Not only were they using these strategies beyond the lessons taught to them, but they were also using the strategies in their homes, with their families.

*Goal 3: Lower the affective filter- Students understand the word analysis strategies and can explain and use them more often in both languages*

### **Method of Assessment**

The Spring Open House for our school was held on March 13<sup>th</sup>. We had been doing three Bilingual Word Detective activities for four months now and I wanted to take the opportunity of having students and parents together to have the students share with me and with their parents why they felt we were learning about prefixes, cognates and vocabulary. I transcribed the answers they gave to their parents. Because of parental intervention and the pressure put on a child when he or she was answering questions in front of the parents, I decided to later conduct an interview alone with my students. Two months later I asked the students the same questions again but this time it was only in front of me. It was in the classroom setting and while the class worked independently I asked students to come speak to me one on one. I documented how students answered differently when in front of their parents and just in front of me, noting the change in the quality and quantity of their answers. I interviewed three students, a low-level student, a medium-level student and a high-level student to look at the difference in answers. Either having parents around or just having me around affected the student's affective filter. I noted the differences in their answers. I also took field notes to see student's word analysis throughout the implementation to show a greater application of skills in speaking

to classmates and to me about their findings. As students practiced these skills they used them more frequently, consistently and correctly in class. This may have implications in student's assuredness in applying these skills and in turn lowering the affective filter to learn language.

## **Findings**

At the beginning of the implementation it was my intent that the students' affective filter would lower by creating a community in the classroom where we would hear everybody's attempts at figuring out word analysis skills. I also used strategies such as think/pair/share to have students initially speak to a partner before having to make their analysis of a word public in the classroom. I believe that the previous goal of creating a community of learners in which we built knowledge together also helped lower student's affective filter by creating a safe space for students to share. Beyond this I used the Spring Open House as an opportunity for students to demonstrate to their parents the knowledge they had built together in the classroom. The students would demonstrate their knowledge in an interview in which students and parents read the questions and then students answered while I wrote their answers on the computer. I planned on analyzing the answers to measure the student's knowledge of what prefixes, cognates and vocabulary were and why we studied them. The initial goal was not to measure the lowering of the affective filter with these interviews, but to see how well they understood why they were learning about prefixes, cognates and vocabulary skills. As the interviews moved ahead I noticed that after reading the first question of the interview, students were

often silent. Despite my gentle prompting the answering time seemed much longer than what it took students during class time. I knew students had more to share than the answers they were giving their parents. For this reason, I decided to interview students one-on-one in the classroom, with no parents, to note the effect of an environment where the affective filter was lowered.

The interviews during Open House consisted of seven questions. The pre and post interview questions were the same except for question eight, which was not included in the post interview. These are the questions asked:

1. *¿Qué es un prefijo?/ What is a prefix?*
2. *¿Porqué aprendemos los prefijos?/ Why are we learning prefixes?*
3. *¿Qué es un cognado?/ What is a cognate?*
4. *¿Porqué aprendemos los cognados?/ Why do we learn about cognates?*
5. *Dame un ejemplo de cuando usarías los cognados./ Give me an example of a time you may use cognates*
6. *¿Qué es el vocabulario?/ What is vocabulary?*
7. *¿Porqué aprendemos el vocabulario?/ Why do we learn vocabulary?* 8. *¿Porqué no debes tener miedo de aprender inglés?/ Why should you not be afraid to learn English?*

The last question was meant as a way to get students to respond about the activities we were doing and how they may help them learn English. The lowering of the affective filter in English language development class was a big goal for me. These are student responses to question eight:

*J:Porque hay palabras que están muy cercas. Porque hay cognados y casi son las mismas palabras./ Because there are words that are very close. Because there are cognates and they are almost the same words.*

B: *No debes de tener miedo porque puedes aprender las palabras de ingles en ingles y saber en español./* You should not be afraid because you can learn the English words in English and know in Spanish.

J: *Para hablar mas en ingles. Para que aprendamos palabras./* To speak more in English. To learn more words.

D: *Porque no te va a pasar nada./* Because nothing is going to happen to you.

The following interview was one of the most worrisome to me because this was a child who had recently arrived to the U.S. from Mexico and was very shy in English class. I was finally making headway with him in class and I was very interested in seeing if he understood the reasoning behind our activities and how they would help him learn English.

Ms Cox.: *Entonces ¿porqué no debemos tener miedo de aprender el inglés?/* So, why should we not be afraid to learn English?

Mother: [Repeats the question after silence.]

Father: *¿Ya se te olvidó?/* Have you forgotten?

We all wait.

Father: *No se te debe de olvidar./* You should not forget.

Mother: [Restates the question: *Debemos de aprender el ingles ¿porque...?/* We should learn English because...?

J: *No se./* I don't know.

Mother: *Pues lo que sepas. ¿Porqué no debemos de tener miedo?/* Well whatever you know. Why should we not be afraid?

After a few seconds wait time I moved on to another question.

In the post interview J was by himself with me and I did not explicitly ask about the Spanish/English connection of our activities or why we should not be afraid to learn



English. Of the seven questions asked, his response included English in four of them although I made no mention of it. To contrast from the interview with his parents these are the four questions and his answers:

Ms. Cox: *¿Porqué aprendemos los prefijos?/ Why are we learning prefixes?*

J: *Para saber cosas en español y en inglés. Algo que empieza al principio de la palabra. / To know things in Spanish and English. Something that begins at the beginning of the word.*

Ms. Cox: *¿Qué es un cognado?/ What is a cognate?*

J: *Algo que sé en español y en inglés. Y que se parecen en español....y en inglés también./ Something that I know in Spanish and in English. And that is like Spanish...and in English as well.*

Ms. Cox: *¿Porqué aprendemos los cognados?/ Why do we learn about cognates?*

J: *Para saber inglés y español./ To know English and Spanish.*

Ms. Cox: *Dame un ejemplo de cuando usarías los cognados./ Give me an example of a time you may use cognates.*

J: *En tiendas y en la casa....y cuando nos preguntan algo en inglés/ At the store and at home...and when they ask us something in English.*

J seems to have the idea that there are similarities between English and Spanish and we can use them to build on each other. I did not get this depth of response when his parents were present in large part due to the pressure place on him and the affective filter being very high.

For the three interviewed students, I analyzed the correct statements made to parents and correct statements made to me. I chose these students for their varying

achievement levels in Spanish language arts and English. My low student made two correct statements in front of his parents and 11 correct statements alone with me (See Table 12). The medium level student made two correct comments in front of parents and 10 correct statements alone with me. My high student made five correct statements in front of his parents and 15 correct statements alone with me.

Table 12: Correct Statements About Prefixes, Cognates and Vocabulary

<b>Student</b>	<b>Correct Statements to parent</b>	<b>Correct Statements to Ms. Cox</b>
<b>J.L.</b>	<b>2</b>	<b>11</b>
<b>L.H.</b>	<b>2</b>	<b>10</b>
<b>B.G.</b>	<b>5</b>	<b>15</b>

The statements made just to me were considerably longer and used more academic language, or language used in the context of the classroom, than those used in front of the parents. The academic language I noticed were words such as antonym, synonym, prefix, etc. I asked each student seven questions and there was a marked increase in answers when they spoke individually to me. Both the low-level student and the medium-level student did not answer five questions in front of their parents and answered all of them in front of me. The high-level student did not answer four questions in front of his parents and answered all of them in front of me. For example, my high-level student did not answer the question “What is a prefix?” in front of his parents but gave a clear and elaborate answer when he spoke to me individually. In his answer he

mentioned four prefixes and defined two of them. He also mentioned that a prefix is found at the beginning of a word. This was his answer to me:

*Mmm...un prefijo es cuando, cuando una palabra tienen como el prefijo, pre- o, dis- en el principio. Y también te ayuda si alguien te pregunta que es un prefijo y tu le vas a decir que es como re- quiere decir de nuevo y in- quiere decir que no.”/.* “Hmmm...a prefix is when, when a word has like the prefix pre- or dis- at the beginning. And it also helps when somebody asks you what a prefix is and you are going to tell them that it is like re-, it means again and in- means not.”

As students became more comfortable with the activities we were doing throughout the implementation of Bilingual Word Detectives, they more readily spoke to me about their understanding of the skills we were practicing during independent work times when we were not explicitly learning the skills. That is, word analysis was not confined to the time allotted to the three activities Prefix Detectives, Cognate Hound and Word Mapping. On the contrary, it permeated all other subject areas, recess time, and assemblies.

Below are examples of students talking about word analysis in the three areas of prefixes, cognates, and vocabulary. The examples of students finding prefixes span from students finding words with prefixes in math classes to students creatively, correctly and incorrectly figuring out the meaning of words using taught prefix decoding skills. During an instance when it was time to go to recess and the ‘ticket’ to line up to go outside was for somebody to give me the antonym of *espeso*/thick, B replied, *desespeso*/dethick. We had studied the meaning of the prefix *des-* as meaning not, so her answer indicated to me that she understood that using *des-* as a prefix could create an antonym of a word; she just wasn’t familiar with what words *des-* is normally associated with. The answer was

*aguado/runny*. Another time we were lining up to go to lunch, and our “ticket” to go out the door was to give me the antonym of the word formal. I had not previously mentioned the prefix in- with this vocabulary work or its antonym. S raised her hand to give the answer and said, *Formal, informal/* Formal, informal. L made the connection to the prefix and added, *!In-! !Maestra in-! El pefijo in-./* In-. Teacher in-. The prefix in-. During a double-digit subtraction lesson where we needed to regroup, B noted a prefix. B spontaneously said, *Reagrupar tiene el prefijo re-./* Regroup has the prefix re-. Also in a math lesson in which Prefix Detective strategies were never introduced, I explained a lesson where numbers were organized in a circular doughnut like shape. H spoke the first sentence to me and he wondered if ri- was a prefix. It is similar to the prefix we had learned, re-. H began by telling me about the shape of the circle on the board, *Es como rine/* It is like *rine* (a car wheel rim). He then looked down at his desk, talked to himself and repeated, *Rine. Ri-ne. Ri-ne*. Finally he returned his gaze to me and asked, *¿Es un prefijo maestra?/* It’s like *rine*. *Ri-ne. Ri-ne. Ri-ne*. Is it a prefix teacher? Another time, I was teaching a lesson on odd and even numbers. During the math lesson K noticed that the antonym of *par/even* is *impar/odd* and includes the prefix im-, when she stated, *“Impar. Que no es par./* Even. That it is not odd.” She spotted the prefix, noted its meaning and gave a definition for the word based on the meaning of the prefix.

The previous lesson was a conversation I had with one child but analysis of words often took center stage as the whole class analyzed a word. During a science lesson we came upon a word that neither the students nor I knew. Together we read a section about plants and the type of soil they need, and came across the word *renuevo*. I was not sure what it meant and I asked for predictions from the students before we got the dictionary. I had

already taught the students the prefix re- so I wondered if they would use their knowledge of the meaning of the prefix to try to find a meaning of the new word. J did use the meaning of the prefix to try to find the meaning of the word when he answered, *Quiere decir que es nuevo. Denuevo.* It means that it is new. Again. J used what he knew of the word, the root, *nuevo/new* and used the definition of the prefix re-, again, to explain the meaning of the word. Another student noted the prefix super- and connected two instances in the language arts and science curriculum where it is found. As I read a story aloud to the whole class, we came across the word *superficie*. We had learned the prefix super- and B decided to make the connection to the *Superlibro/Superbook* we had seen in science class previously. He emphasized the prefix super- as I did during the introduction of the prefix when he answered, *Super-ficie como super-libro./ Super-ficie like super-book.*

The students choose two books for choice reading every week. P decided to choose a book she had chose before and mentioned to me that she enjoyed it because of the many prefixes it contained, *“Me gusta este libro porque tiene mucho prefijos.* I like this book because it has a lot of prefixes.” This student expressed her feeling for the prefixes and how they helped her enjoy the book. J noticed two different prefixes in the book he decided to take to his desk. J said to me, *Mire maestro, aqui tiene el prefijo im- y in-.* Look teacher, here we have the prefix im- and in-.

When it is time to choose which books each student can take back with them from the library J, decided to come to me and share his finding stating, *“Maestra hay un prefijo en mi libro. Retorcio.* Teacher there is a prefix in my book. Twist.” Although he did not venture a guess to the definition of the word, he did find the spelling pattern of the prefix.

Another time a student noted a prefix and two students jointly created meaning for it while the rest of the class listened to their discussion. My students get spelling words each week. As we were going over the words P noticed that there were parts of a word that had the spelling pattern of a prefix and B wondered if it truly had a prefix. Even though the lesson was about spelling and not necessarily about meaning, we satisfied their curiosity by having a small discussion about it before returning to the lesson at hand. I mentioned the word *resolver*/ resolve, and P noted, *Tiene sol y ver*/ It has sun and see. B took it one step further and asked the question that I would typically ask. He said, *Tiene el prefijo re-, pero ¿Si es prefijo?*/ It has the prefix re-, but is it a prefix?

There had been a news story about a recently discovered hexapus, an octopus with six legs and I thought I was a great opportunity to teach some math related prefixes. I showed the class a picture of Henry the hexapus and asked them how many legs an octopus has. To jog their memories I asked them, *¿Cómo que suena octo?*/ What does octo sound like? L answered, *Octavo*/ Eighth. We went on to discuss that the prefix hexa- means six and why it made sense to call this new type of octopus a hexapus.

Although I never made a mention for students to search for prefixes in their spelling homework, students pointed them out a few times. J took out his homework and showed me that one of our spelling words, *reciclar*/recycle, contained a prefix. I was delighted to see that he used the sentence frame that we used during the Prefix Detectives search by saying what he found, where he found it and what prefix it was. J said to me, *En la tarea encontré un prefijo re-.*/ In the homework I found a prefix re-. Another time a student brought his spelling word practice with all the prefixes re- underlined as I did on the classroom poster that contained all the prefixed words the students had found

together. Another part of the homework includes a small bag with books that they take home every day to read. We rotate books every day and P noted that his book had many prefixes in it. P noted, *En el libro de Clifford encontré varios prefijos.* In the Clifford book I found many prefixes. These many and varied examples show how students used the prefix analysis skills and the prefixed we had learned to figure out the meaning of words. Also it shows a lowering of the affective filter in that students readily spoke to me and to each other about prefix and word meanings. Not all of the words they analyzed were correct but our classroom environment was constructed so that the analysis was more important than the correct answer. Also students often mentioned that they enjoyed a book because they found many words with prefixes in them.

A large part of the goal related to lowering the affective filter was to increase students comfort when analyzing words in Spanish as well as English. Students took the Cognate Hound activity and generalized it to all English and Spanish classes. When they found a cognate in class it was often mentioned to me or to a classmate. The more adept they became at finding them, and the more we made the connection to the similarities in English and Spanish and the more they mentioned them. Even the shyest students in English class became great Cognate Hounds, speaking to partners and eventually to the class about their finds. In an English lesson we saw the word vapor as we discussed the water cycle. We had seen vapor in a Spanish science lesson and L made the connection of the cognates. *Vapor/Vapor* said L. During an English lesson K mentioned cognates to the whole class although during that time there were students that had not learned about our word decoding skills. K stated, Non-fiction. *Maestra es igual que en español, no ficción.* Non-fiction. Teacher it's the same as in Spanish, *no ficción.*

In the mornings, the students and I would sometimes review their vocabulary words as we waited for the morning announcements on TV. In this conversation with S we spoke about synonyms and cognates.

Ms. Cox: *¿Cuál es el sinónimo de público? Es un cognado..../* What is the synonym of public? It is a cognate....

S: *A, si es cierto...¿Lo digo?/* Oh, yeah. It's true...should I say it?

Ms. Cox: *¿Cuál es el cognado en inglés S?/* What is the cognate in English S?

S: *Es como audiencia./* It is something like *audiencia*.

During an English lesson, the students and I were analyzing cause and effect relationships in a story. S decided to mention that the words cause and effect are like the same words with the same meanings in Spanish and K chimed in to mention the activity that has taught them this. S says, Is like Spanish! and K interjects, Cognate Hounds! During an English grammar lesson on adjectives K decided to announce that she sees a cognate and mentioned it loud enough for the class to hear, I see a cognate, *adjetivo/* adjective.

Although the lessons from the Prefix Detectives and Cognate Hounds explicitly taught children to find and report out on their findings, the Word Mapping activity did not explicitly ask students to find them in their language environment. Despite this, students generalized the skills from the other two activities and reported out to me and to their classmates vocabulary words they had found in their environment in the classroom and outside of the classroom. During an English lesson I wrote a sentence that described how animals made noise and “spoke” to teach other. We had used the word *comunicar* in



Spanish science class. B raised his hand to end my sentence frame and said “Many animals communicate.” Not only was he using his vocabulary knowledge but also a cognate.

During another English class we were learning about dairy farms and we wanted to write a sentence with the vocabulary words, take and many. D started by giving the class the sentence, The farmer takes the milk to the factory. B continued the sentence by adding ...to make milk products...to make many milk products. I used many and take. B used the vocabulary word ‘products’ to make the sentence more advanced.

The day before we had made a word spectrum in English of the words that meant something like wet. The spectrum began with dry on one end, to humid and went all the way to wet and soaked on the other end. A had gone over to get a book to read since her work was done and she noted one of our vocabulary words and pointed it out to me.

*Maestra, mire, húmedo.* / Teacher look, humid. She was becoming more aware of the words in her environment as she spotted it in her own time with her own book. S had a similar experience. *Gracia/graceful* was one of our vocabulary words and S had found it in her independent reading book. She said to me, *Dice gracia en mi libro.* / It says graceful in my book. The same vocabulary word was noted on another occasion. The class was making a list of amazing animals. When each child told me of their animal I asked them to tell me why they thought their animal was amazing. When J mentioned his animal and included a vocabulary word in his explaining sentence, S decided to chime in with the word’s antonym. J said, *Los cisnes porque se mueven con mucha gracia.* / Swans because they move with much grace. S chimed in by giving a synonym we had learned in class. She said, *Gracia, elegancia.* / Graceful, elegant.

When I wrote *chispa*/ spark on the board one boy shouted a word from our weekly language arts story, *Chisporrotea*/ Sizzle. He was noting the relationship between words that have the same root. In a similar fashion when I told the students that we would be writing a ‘report’ on amazing octopuses one student connected it to the behavioral and academic reports they take home each week. He shouted out, *Reporte semanal*./ Weekly report Another time we reviewing vocabulary words and I asked for the antonym of a vocabulary word. S decided to use the prefix des- which means not and we had learned using it in the front of a word could create an antonym. Her answer with the prefix des-, *despenalidad* is not correct but she knew that by adding the prefix des- it could form an antonym of a word. I asked, *¿Cuál es el antónimo de penalidad?*./ What is the antonym for penalty? S answered, *Despenalidad*./Dispenalty.

Another time when a student used vocabulary words beyond the word mapping was when it was time to put away the objects we had used after a math lesson and J had put his things away earlier than other students. J decided to use our vocabulary word *clasificar* to ask permission to do something as he waited for his classmates to finish cleaning. J said to me, *Los flashcards, ¿los puedo clasificar maestra?*./ The flashcards, can I classify them teacher?

I was often just as excited as students, if not sometimes more, when they found the vocabulary word they had learned in different contexts. This classroom excitement created an environment where many students seemed to search out these words. Also, if I found one of the student’s vocabulary words first, I would prompt the students by telling them that somewhere in the paragraph, page, story, poster, etc. they just read or listened

to there was a vocabulary word. This created a level of excitement for finding vocabulary words and lowered the affective filter by creating an activity that only required students to find a vocabulary word and report where they found it. There was no analysis required, we were just noting that the words we had learned are found in many different contexts. Students then proceeded to find vocabulary words on their own without my prompting.

### **Discussion**

To analyze how a lowered affective filter affects students learning of word decoding skills and their ability to express this to peers, parents and to me, I focused on student interviews and on student comments in the classroom, listening for students' freely analyzing words out of their own volition in Spanish and especially in English. I thought that by having students explain what we were learning in individual interviews with me and in interviews with their parents, they would be able to heighten their own metacognition by having to explain their reasoning aloud. The initial interview with the parents seemed to have the opposite effect that I was looking for. The students seemed stunted in answering questions in front of parents and parental exasperation about students' inability to perform in front of them or the teacher further built up students' affective filters. The outcome of the initial interview was students muting their answers, resorting to being quiet, and letting the parents speak. I was convinced that students knew more than they let on at this initial interview so a second interview was done two months later. It is possible that the two month period between the first interview with the

parents and the second interview with me gave students a greater repertoire of which to speak when doing the second interview. But the implementation of vocabulary decoding skills and the talk of prefixes, cognates and vocabulary after the first interview all came of the students' own volition. The implementation was finished by the second interview although we periodically would do Prefix Detectives if we had extra time during the day. Students showed a lower affective filter when speaking just to me than to their parents as noted by the quantity and the quality of answers that all three students gave me compared to what they told their parents at the Open House.

Students' affective filter was also lowered as they began to speak to me and to their classmates about their newfound word decoding skills. The initial activities in the implementation only required the lowest level of knowing according to Bloom's taxonomy (Wiggings & McTighe, 2005). Early on in the activities, I used knowledge-based questions in which I would ask students if they had found a prefix, a cognate, or vocabulary word. This level only required students to recall information and is the least threatening because it is the easiest to reply to. The second level is comprehension and this is where students were asked to group related ideas. Two of our activities, the Prefix Log and putting like prefixes on the classroom poster, are examples of this level. The next level is application and was best illustrated in how students took what they already knew about prefixes and used that knowledge and applied it to a new situation: looking for prefixes from different sources around the classroom. I asked analysis questions to figure out if a word had a prefix or merely the same spelling as a prefix at the beginning of the word. As students moved from comprehension, to application, to analysis, different students participated differently. The higher the level of questioning, the higher the

affective filter seemed to be. The higher the affective filter the lower was the level of student participation. The majority of the comments that students made to each other and to me could be considered comprehension level (Bloom's taxonomy) statements. Often students would just spot a prefix, a cognate or a vocabulary word and mention it. Some students would merely spot the spelling pattern of a prefix. It is quite possible though, that some students were working at a higher level of knowing, using morphology and analyzing the word as they did in class to see if the spelling pattern held meaning. Several students also took vocabulary words and applied them to different contexts. If the implementation lasted longer or continued during the next academic year I believe the students would continue to move up Bloom's taxonomy of knowing.

By creating a non-threatening environment in my classroom through accepting everyone's answers as an opportunity to learn something, there was an increased flow of academic talk between students and with me. The comments students made in interviews spanned a variety of academic areas, including English language development. I am not certain that these activities lowered the affective filter for all students using English, but answers given in direct interviews with representative students provided me some feedback from students as to 1) why they are not afraid to learn English and 2) how well they are able to explain ways in which the two languages are related and how their primary Spanish language will help them learn English.

This classroom environment that strove to increase academic language knowledge while lowering the affective filter through open discussions created a community that worked together to build the academic language of the classroom and beyond it.

## VIII. Conclusion

With the Bilingual Word Detectives curriculum I strived to design projects that would give my Spanish/English bilingual students the knowledge and skills they would need so that they can realize the word power they already possess and give them new skills to augment their word decoding abilities in Spanish and English. My main motivations to do this project spanned from seeing the low performance scores on standardized tests for Latino students and how school districts took these scores as a sign denoting that bilingual education is not working. Working day in and day out with these bilingual and sometimes trilingual students I was never under the impression that these students had any cognitive shortcomings as would be suggested by the standardized tests. On the contrary, I found these students inspirational in their ability to navigate through two or more languages and cultures by translating for their parents or translating for a friend who is newer to the country or had less English skills. I found their linguistic resources as a great asset to be tapped into and not ignored. The standardized tests expect these multilingual students to perform at the same level as their monolingual peers despite the varied histories of contact with English. School and district administrators were not looking for any excuses though and the same academic achievement level was set for all students to reach regardless of language background. Being faced with this challenge I thought bilingual teachers need to “work smarter”, to make a clear connection between Spanish and English because the two languages have many similarities. By making these connections explicit students would more quickly acquire English while

still strengthening their Spanish. The connection would not detract from Spanish but show students how it is a foundation of information that they can use to learn English. Traditional approaches used in the current curriculum did not build many bridges between the two languages and students learned Spanish and English as two separate subjects. I was looking to link the two languages beginning with the study of words, their morphology and their meaning.

Because “Mastery of academic language is arguably the single most important determinant of academic success for individual students” (Francis, et. al, 2006) I saw a strong need to focus on how students would be able to access this language. The main goals of the curriculum then focused on word knowledge building. The focus was to teach students how to use morphological elements, cognates, and metalinguistic skills to decode words. While doing this I also sought to create a community in which students felt they could share and use the skills in the classroom and take them home with them. Also by lowering the students’ affective filters, students were encouraged to more freely use these skills in both Spanish and English classes. The curriculum I designed was intended to accomplish what existing curricula do not; to show how the language students already know is related to the language they are learning and that they can use what they know to empower them in acquiring a new language. If students are aware of these similarities, not only would their acquisition of English be expedited but the silent, apprehensive period of learning a new language may be shortened and consequently their affective filters lowered. This would ideally result in students who are more receptive to language learning and who will comprehend text more easily.

With these goals in mind I set in place the Bilingual Word Detectives curriculum and it had promising results. The first part of the implementation included the Prefix Detectives, and students very quickly took to the idea of looking for prefixes around the classroom. It was easy to create a community of learners when students had a common goal and a common language to use while searching for words in the classroom. Students worked cooperatively in groups in their searches and their findings were part of our shared, communal knowledge base. The students' enthusiasm for this activity was evident because they asked to continue the activity after the implementation was over and they continued to ask for it as the school year came to a close. Not only was the activity continued, but the students' conversations with me and with each other about finding words with prefixes also continued throughout the school year, infiltrating other content areas settings and beyond to include words in both languages.

To expand the Prefix Detectives activity, I would have liked to include a time of day when students could share the words that they found outside of home that contained morphological elements emphasized through the implemented curriculum. During the implementation I just analyzed the words and only shared certain examples to clarify the home activity. Also I would have liked to continue to work on prefix meaning and analysis of words. Although the activity was enjoyable and students were quite enthusiastic about it, there was a 70% accuracy rate for the words that students found that contained a prefix and I would have liked for this percentage to be higher. Students were finding the spelling patterns but not always knowing the meaning of the prefix. A longitudinal study may have found that students had a greater ability to more effectively and accurately analyze words with prefixes.



The Cognate Hound activity was most explicit about illustrating the similarities in spelling and meaning between Spanish and English words. Although the Prefix Detectives pointed out to students the prefixes with the same spelling and meaning in both languages, students' examples of prefixes were not always cognates. The Cognate Hounds activity held the most promise in lowering the affective filter in students who were reticent in English class. I was pleasantly surprised that my student who was performing at the lowest English level called me over to him during a Cognate Hounds lesson to show me what he had learned, a behavior that was out of character for him. The Cognate Hound activity affected various other content areas. For example, students searched for cognates during the language arts curriculum, even when we had not searched for prefixes in language arts resources before. Although the Cognate Hound activity had a shorter implementation time than the Prefix Detectives, cognates nevertheless became part of our academic language and part of our classroom's conversations about language.

The Word Mapping activity showed the power of multiple dimensions of word meaning. The activity allowed students to think about words and their existing knowledge of word meanings before getting a definition from an outside source such as a dictionary. Early on, I encouraged students to use their word decoding skills to find meaning in new, unknown words. Because students got to work in various structures, including partners and the whole class, Word Mapping became a game that involved seeing how close they could get to the dictionary definition using their own knowledge

base. The students deepened their understanding of familiar words and new words by comparing them to synonyms, antonyms, and making connections between the word and their personal lives. The words they learned through mapping activities were provided by me. The Word Mapping activity was a good initial activity to foster word consciousness. However, I hope to expand the activity in the future by having students not just seek out and map words that I have taught them, but to choose words of their own to map.

The development of a classroom community during the three Bilingual Word Detective activities successfully moved from being directed by me, to being a joint venture between me and the students. In many instances it was taken by the students and used during their own conversations and even outside of the classroom when no assignments were given. As it is the goal of many educators to create students who are autonomous learners and help them apply skills and knowledge from the classroom to new situations, it was fulfilling to see these aspects manifest themselves as a result of the curriculum I implemented.

Rather than seeing bilingual students and the knowledge base that they bring to schools as a disadvantage, we should see them as students coming with an additional deposit of language reserves from which to pull. In the state of California, bilingual students are expected to show that they are scoring at the same rate as their English counterparts on standardized tests. Bilingual students are not only strengthening their primary language in bilingual programs but must also have equal academic achievement in English as all other students. For this reason, bilingual teachers now need to take into account the primary language resources students bring with them, tap into the resources,

make wise use of these resources, and demonstrate that bilingual students can perform well in their native language, master the content of the California State Standards, all the while learning their second language, English. It seems almost an impossible task, but one that we educators need to work towards regardless to ensure that bilingual education and creating bilingual and biliterate students is viewed as successful, effective and advantageous in creating citizens that succeed in higher education in society and in our global economy.

## Appendix

### Bilingual Word Detectives

A curriculum for Spanish/English bilingual students

## Introduction

*Bienvenidos* and welcome to the *Bilingual Word Detectives* curriculum! This curriculum was designed to help bilingual Spanish and English students understand the morphology of their dominant language and how it can help them learn English. It is also designed to look at cognates, words that look and sound the same in Spanish and English, and finally to give students tools for thinking about their own understanding of a word and for using resources and skills to improve understanding of words.

### **Who is *Bilingual Word Detectives* designed for?**

Although the curriculum was designed and implemented in a 2<sup>nd</sup> grade classroom it can easily be generalized and manipulated to fit higher grade levels and even English only classrooms or bilingual classrooms that use a language other than Spanish. The prefixes used in this curriculum are those that have a Latinate background and for this reason other Latin rooted languages could benefit from the prefixes chosen. The words with common spelling and meaning, cognates, were also chosen because of their Latinate origin and can be similarly used.

### **What academic gains may we see if we use *Bilingual Word Detectives*?**

I designed *Bilingual Word Detectives* so that my Spanish speaking bilingual students would have a better tool box of strategies to take with them to 3<sup>rd</sup> grade when they would be transitioned into English. To foster comprehension the adopted curriculum our school uses has very general strategies that do not speak directly to the advantage that

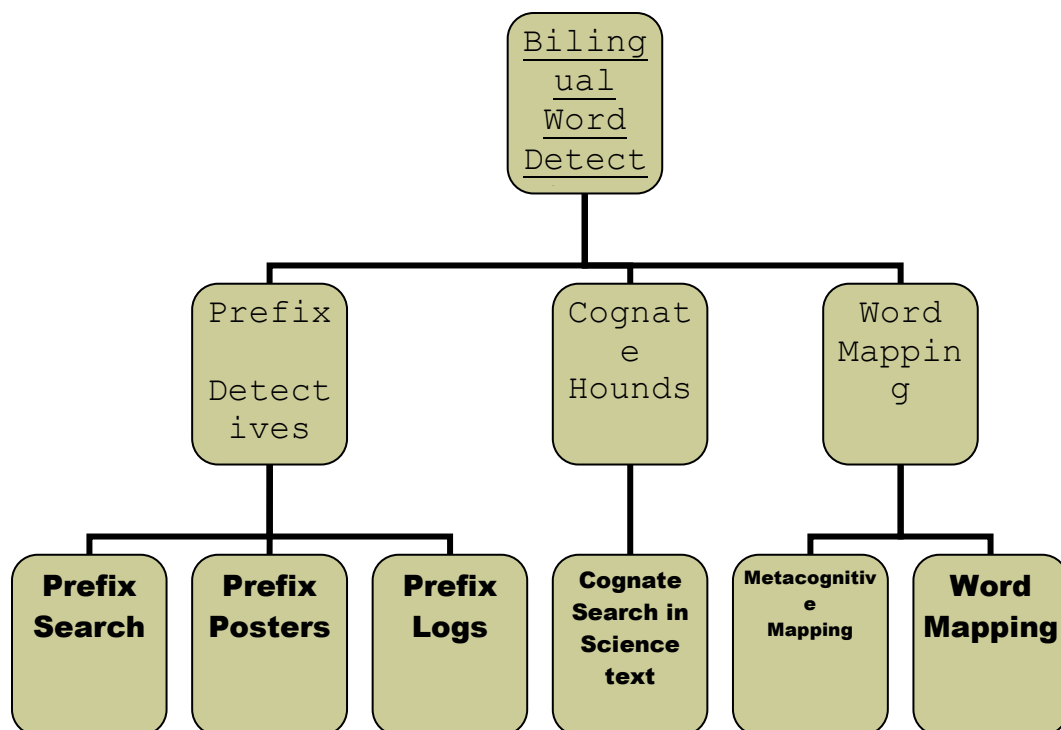
our Spanish speaking students may have in learning English. Part of valuing the students' primary language is seeing the strengths in their language that help them learn English. The strategies taught by *Bilingual Word Detectives* are simple and powerful in helping students decode the meaning of words in Spanish and in English.

### **Beyond academic gains what else can we expect to find?**

Beyond the academic implications of this curriculum I also wished to reduce the fear that students sometimes have when encountering a new language. By highlighting the similarities between the two languages and by giving them tools to use, students had a more confident sense of their ability to understand or at least manipulate their new language and had a few strategies to deploy if they come across new words.

It was a pure joy implementing this curriculum in my classroom. Students were highly motivated and when the implementation period of the project was over, they continued to ask for the activities. Although this thesis only catalogues a specific time frame of implementation, the activities continued through to the end of the year due to students' requests. There was a real community of learners created in the classroom as students used their strategies together to understand word meanings. All classes are different and while I had a highly motivated group of student, I expect that part of their motivation came from their ability to successfully implement the strategies and to see that they could decode words and discover word meanings.

## Bilingual Word Detectives Activities



<b>Academic Goal, Constructs, Activities and Evaluations</b>
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<b>Goal</b>	<b>Construct</b>	<b>Activities</b>	<b>Evaluations</b>
<p><b>Academic- Improve word decoding skills in Spanish and English bilingual students</b></p> <p><u>Prefix Detectives-</u> -Students recognize that words are made up of morphological elements - Students will know the meaning of prefixes</p> <p><u>Cognate Hounds-</u> -Students recognize Spanish/English cognates --Students use the meaning of a word in Spanish to figure out the meaning of the word in English</p> <p><u>Word Mapping-</u> -Students recognize vocabulary words, their synonyms and their antonyms -Students will be able to use their vocabulary words in sentences</p>	<p><b>Metalinguistic Awareness</b></p>	<p><u>Prefix Detectives-</u> - Introductory Power Point about prefixes. - A review of the resources (Spanish/English dictionaries. Cognate dictionaries) -Prefix detectives search the room -Students have their own “<i>Esos Poderosos Prefijos/ Those Powerful Prefixes</i>” logs to chart their own prefixes. These are also taken home.</p> <p><u>Cognate Hounds-</u> - In pairs, students find cognates, circle them, in English text -Students write the Spanish cognate directly above it English word -Students find English/Spanish cognates individually</p> <p><u>Word Mapping-</u> -Students incorporate a metacognitive process by rating their understanding of a word, write their predicted definition and write the dictionary definition</p>	<p>-Track how many times students participate in Prefix Detectives by writing their findings on the board.</p> <p>-Analyze “<i>Esos Poderosos Prefijos/ Those Powerful Prefixes</i>” log (words written at home, correctness, quantity)</p>



<b>Social Goal, Constructs, Activities and Evaluations</b>
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<b>Goal</b>	<b>Construct</b>	<b>Activities</b>	<b>Evaluations</b>
<p style="text-align: center;"><b><u>Social</u> – Create a community of academic language learners in the classroom</b></p> <p>-Students speak to the teacher and to each other about prefixes, cognates and vocabulary words</p> <p>-Students work in collaboration to find meaning of words.</p> <p>-Students, teacher and resources create a working class knowledge base and a common language to analyze words</p> <p>-Students will use word decoding skills out of their own volition</p>	<p><b>Community of Learners</b></p>	<p>-Catalogue students doing Prefix Detectives in collaboration with other students</p> <p>-Search for cognates in pairs</p> <p>-Catalogue students that speak to each other or to me about prefixes, cognates or vocabulary words out of their own volition</p>	<p>-Catalogue any reference to prefixes or word recognizing skills that students mention to each other, during a lesson that is not intended to look at that skill or in informal talks with me.</p> <p>Catalogue: -Whether they spoke of prefixes, cognates or vocabulary</p>

**Lowering the Affective Filter Goal, Constructs,  
Activities and Evaluations**

<b>Goal</b>	<b>Construct</b>	<b>Activities</b>	<b>Evaluations</b>
<p><b><u>Lower the affective filter-</u></b>  <b>Students apply and know the word analysis strategies and can explain and use them more often in both languages</b></p> <p>-Students use word decoding skills out of their own volition</p> <p>-Students' affective filter will be lowered</p> <p>-Students explain to parents and to teacher why we are learning prefixes, cognates and vocabulary</p>	<p><b>Affective Filter</b></p>	<p>-Students interview with parents about why we are learning about prefixes, cognates, and vocabulary</p> <p>Compared to:            -Students interview with teacher about why we learned about prefixes, cognates, and vocabulary.            Difference in quality and quantity</p> <p>-Students analyze throughout the implementation to show a greater application of skills in speaking to classmates and to me about their findings.</p>	<p>-Catalogue explanation to parents about what prefixes, cognates and vocabulary are and why we study them.</p> <p>- Catalogue explanation to me about what prefixes, cognates and vocabulary are and why we study them.</p>

## Prefix Detectives

### Lessons 1-5: Introduction to Prefixes

**Duration: 15 min. for 5 days**

#### Introduction:

This lesson is intended to introduce prefixes to students. The objective is to give students a primary understanding that prefixes are found at the beginning of words, that prefixes carry meaning, and that knowing the meaning of a prefix may help you figure out the meaning of words you have never heard before. Also students will see that some words that have the same spelling of a prefix may not carry the same meaning. Finally, students will see that there are prefixes in Spanish and English that carry the same meaning and have the same spelling.

#### Lesson Preparation:

Have a list of words with prefixes ready. Select words that students will be able to figure out if you tell them the meaning of the prefix.

The first words I used were:

Prefijo <i>re-</i>	Prefijo <i>sub-</i>	Prefix <i>re-</i>	Prefix <i>sub-</i>
<i>reconstruir</i>	<i>subrayar</i>	<i>rewrite</i>	<i>submarine</i>
<i>reaccionar</i>	<i>submarino</i>	<i>recollect</i>	<i>subterranean</i>

Present to the students the above key reasons that make a prefix a prefix (sample Power Point presentation below).

## **Materials:**

- List of most commonly used prefixes in English and Spanish to concentrate on for the duration of the prefix lessons
- A list of words containing prefixes in Spanish
- A list of words containing prefixes in English
- White board
- Markers
- Power Point presentation introducing prefixes

## **Lesson Activities:**

Day 1: Present students with a brief presentation on what a prefix is and how they will help us figure out the meaning of words. Present whole Power Point presentation.

Day 2: Review what a prefix is and how it will help us learn new words. Engage students in figuring out the meaning of words that contain prefixes. Present slides 1-4 in Power Point Presentation.

Use think-pair-share to speak to other students and get ideas about how to figure out the meaning of the words

Day 3: Give examples of words that have the same spelling as the prefix but not the same meaning.

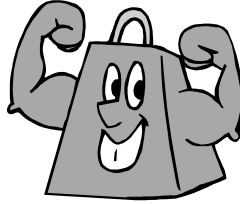
Present slides 1-5

Day 4: Introduce the idea that there are also prefixes in English and that several have the same spelling and meaning in Spanish and English

Present slides 1-8 of Power Point presentation

Day 5: Review why we are studying prefixes and create a class generated list about why the students believe they will learn about prefixes.

## Esos poderosos prefijos



## Those Powerful Prefixes

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### ¿Porqué tan poderosos?

- Si sabes el significado de un prefijo te puede ayudar a saber que quiere decir una palabra que nunca has visto antes.
-

## ¿Conoces el prefijo sub-?

- Quiere decir: debajo



AHORA, ¿Qué piensas que quieren decir estas palabras?

- **suborden**
  - **subsuelo**
  - **subsecretaria**
-

## ¿Qué tal el prefijo re-?

Quiere decir: regresar



¿Qué crees que quieren decir estas palabras?

- recalentar
- reatar
- rebotar

---

Pero mucho ojo....



Algunas palabras que empiezan con las letras re- pero **no es prefijo** porque ***no quieren decir*** regresar.

Por ejemplo:

reina

reir

recámara

---

También, ¿sabías que muchos de los prefijos en español son iguales en inglés ?

**!QUE suerte!**

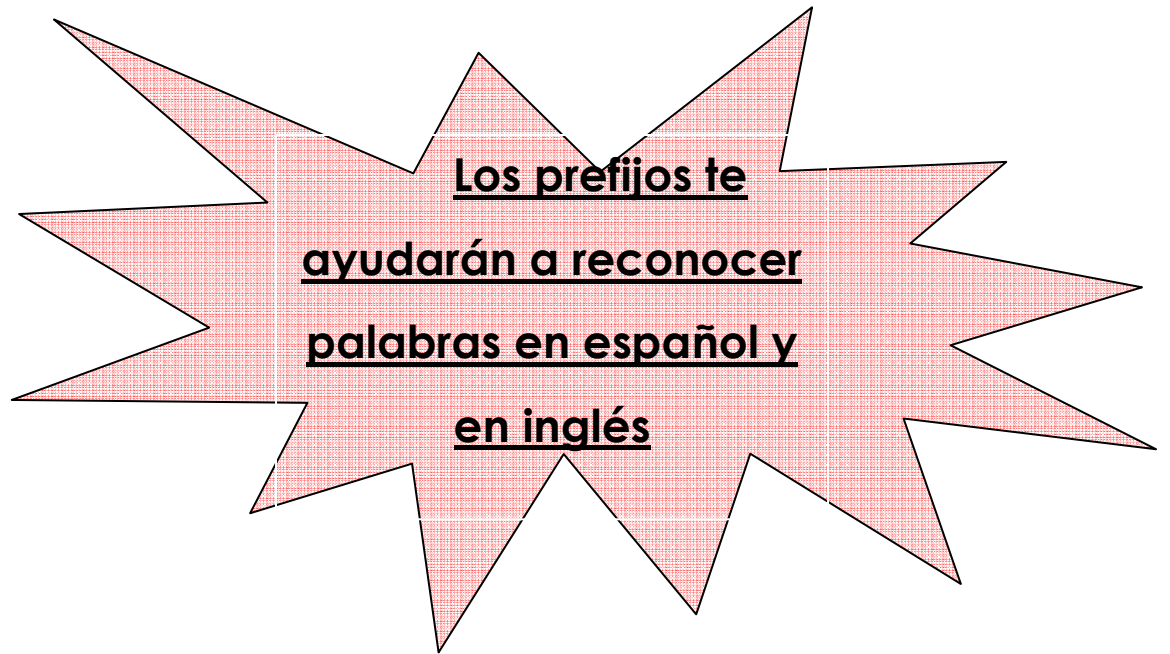


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¿Qué crees que quieren decir estas palabras?

- reconstruct
  - rewrite
  - reenter
-





## **Lesson 6-7: Introduction to Prefix Detectives**

**Duration: 15 minutes for 2 days**

### **Introduction:**

The objective of this lesson is to have students realize that prefixes are everywhere and that they exist in text all over the classroom. This should also emphasize why it is helpful that we learn about prefixes. Students will also have the opportunity to hear and use the word prefix many times and practice mentioning and explaining about prefixes.

### **Lesson Preparation:**

-Have a list ready of where students will find prefixes and be ready direct them to them.

-Have sentence frames ready as to how to verbalize about finding a prefix

### **Materials:**

-Books, material on walls, fliers, homework, magazines, etc. that contain prefixes that we have studied in class

-Bell

-Sentence frames on tag board to put up every time they look for prefixes

### **Lesson Activities:**

-Review the meaning of a prefix. -Review where a prefix is found in relation to a word

-Explain what a detective is and how they will become prefix detectives

-Have students follow you as you search the classroom and find prefixes

- Show students how they will ring a bell when they find a prefix and everyone else must freeze to listen to the ensuing conversation.
- Direct students to the sentence frames they will use when they find a prefix.

### **Sample Conversation and Sentence Frames:**

Teacher: *¿Qu'e pasó [nombre del alumno]?/ What is it [student name]?*

Student: *Encontré un prefijo./ I found a prefix.*

Teacher: *¿Qué prefijo encontraste?/ What prefix did you find?*

Student: *Encontré el prefijo \_\_\_\_\_ . / I found the prefix \_\_\_\_\_ .*

Teacher: *¿En qué palabra lo encontraste?/ In which word did you find it?*

- Teacher is in charge of explaining whether the pattern found is a prefix or is not a prefix.

## **Lesson 8: Student Ownership of Prefix Detectives**

**Duration: 15 minutes 1 day**

### **Introduction:**

The objective of this lesson is to now give students ownership of the Prefix Detectives. They will follow the steps explained the day before in their search for prefixes.



Personal photograph by author. March 12, 2008. Permission granted by parents to publish.

### **Lesson Preparation:**

-Have a list ready of places where students may find prefixes. Because there should be a high success rate to begin, use the prefixes most commonly found in the language. Begin with the prefix re-.

### **Materials:**

- Books, material on walls, fliers, homework, magazines, etc. that contain prefixes that we have studied in class
- Bell
- Sentence frames on tag board to put up every time they look for prefixes
- White board
- White board markers

### **Lesson Activities:**

- Have students remind you what a prefix is
- Have students remind you where they can search for prefixes



- Start placing the found words with prefixes on poster board. It is useful to use one color for one language and another for the second.



## Lesson 9: Introduction to Prefix Word Log

**Duration: 20 minutes for 1 day**

### Introduction:

As students become more comfortable and aware of prefixes the Prefix Log will allow for more personal ownership of the words and the prefixes. Rather than just seeing the words on chart around the classroom they can now have their own book to catalogue the words we find as a class and now the words they find on their own.

**Lesson Preparation:**

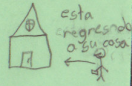





- Prefix Word Log book
- Posters with words with prefixes already found in classroom

**Materials:**

- Prefix Word Log book
  - \*Tag paper
  - \*Spiral binding
- Pencils

**Lesson Activities:**

- Remind student why prefixes are powerful to introduce the front page of the log
- Have students write their name on it
- Open to the first page to see that the log is organized by prefixes in Spanish followed by the same prefix in English

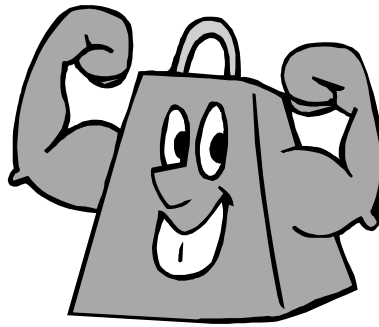
Prefijo <i>re-</i>	Prefix <i>re-</i>	Prefijo <i>in-</i>	Prefix <i>in-</i>	Prefijo <i>im-</i>	Prefix <i>im-</i>
<p><b>Significado:</b></p> <ul style="list-style-type: none"> <li>de nuevo</li> <li>regresar</li> </ul> 	<p><b>Meaning:</b></p> <ul style="list-style-type: none"> <li>again</li> <li>return</li> </ul> 	<p><b>Significado:</b></p> <p>que no</p> 	<p><b>Meaning:</b></p> <p>not</p> 	<p><b>Significado:</b></p> <p>que no</p> 	<p><b>Meaning:</b></p> <p>no</p> 

- Begin with the prefix *re-* and have students remember what its meaning is
- Write down the meaning on the *re-* column and ask for ideas on what visual could represent the prefix *re-*
- Translate the meaning in the following column that is in English
- Draw the same illustration or a different one to show the meaning of the prefix *re-*
- Cut each column already used so that it creates a flip chart that students can study
- Turn to the next page with the matrix. List representative words for each prefix



Español	Inglés	Español	Inglés	Español	Inglés
reconstruir C	recycle	invisible ✓ C	insane	impar	impolite
regresa	return	impar	injustice	impermeable C	impermeable C
reaccionar	react	incompleta C	incomplete C	imposible C	impossible C
revista	reblow C	incierto	inhuman	impaciente C	impatience C
repetir C	reconstruct C	incapaz ✓	invisible ✓ C		
reverso C ✓	reverse C ✓				

**Esos poderosos prefijos**



**Those Powerful Prefixes**

Este libro le pertenece a:

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<b>Prefijo</b> <i>re-</i>	<b>Prefix</b> <i>re-</i>	<b>Prefijo</b> <i>in-</i>	<b>Prefix</b> <i>in-</i>	<b>Prefijo</b> <i>im-</i>	<b>Pefix</b> <i>im-</i>
<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>

<b>Español</b>	<b>Inglés</b>	<b>Español</b>	<b>Inglés</b>	<b>Español</b>	<b>Inglés</b>

<b>Prefijo <i>ir-</i></b>	<b>Prefix <i>ir-</i></b>	<b>Prefijo <i>dis-</i></b>	<b>Prefix <i>dis-</i></b>	<b>Prefijo <i>sub-</i></b>	<b>Pefix <i>sub-</i></b>
<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>

<b>Prefijo</b> <i>pre-</i>	<b>Prefix</b> <i>pre-</i>	<b>Prefijo</b> <i>inter-</i>	<b>Prefix</b> <i>inter-</i>	<b>Prefijo</b> <i>de-</i>	<b>Pefix</b> <i>de-</i>
<b>Significado:</b>	<b>Meaning:</b>	<b>Significado:</b>	<b>Meaning:</b>	<b>Significado:</b>	<b>Meaning:</b>

<b>Prefijo <i>trans-</i></b>	<b>Prefix <i>trans-</i></b>	<b>Prefijo <i>super-</i></b>	<b>Prefix <i>super-</i></b>	<b>Prefijo <i>semi-</i></b>	<b>Pefix <i>semi-</i></b>
<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>

<b>Prefijo</b> <b><i>anti-</i></b>	<b>Prefix</b> <b><i>anti-</i></b>	<b>Prefijo</b> <b><i>pro-</i></b>	<b>Prefix</b> <b><i>pro-</i></b>	<b>Prefijo</b> <b><i>bi-</i></b>	<b>Pefix</b> <b><i>bi-</i></b>
<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>	<b><u>Significado:</u></b>	<b><u>Meaning:</u></b>



## **Lesson 10: Continuation of Prefix Word Log – Introduction of Cognates**

**Duration: 15 minutes for 1 day**

### **Introduction:**

The objective of this lesson is to continue this Prefix Word Log in tandem of the Prefix Word Detectives, one following the other. You will also be continuing to increase the student's knowledge of prefixes. In this lesson to further make the connection of the similarities between Spanish and English there will be an introduction to cognates, words that are spelled similarly and have the same meaning in both languages.

### **Lesson Preparation:**

- Prefix Word Log
- Prefix Detectives Posters on the wall
- List of cognates already found in Prefix Detectives

### **Materials:**

- Prefix word log
- Pencils
- Cognate dictionary

### **Lesson Activities:**

- Continue lesson activities as in lesson 9

- While on the matrix page of the Prefix Word Log ask students if they find words that look and sound the same in English and in Spanish. If they do not point it out to them.
- Write the word cognate on the board and explain the meaning.
- Tell students that they already know many cognates
- Use the cognate dictionary to demonstrate that they already know many cognates.
- When two word in the Prefix Word Log are cognates have students write a 'c' with a circle around it to demonstrate this

### **Lesson 11-25: Continuation of Prefix Word Log With Cognates. Send Prefix Word Log Home**

**Duration: 15 minutes for 15 days**

#### **Introduction:**

The objective of these lessons is to continue this Prefix Word Log in tandem of the Prefix Word Detectives, and continue cataloguing the cognates.

Each prefix page has 3 prefixes on it. For example, the first prefix page contains the prefixes re-, in-, im- ; three columns in Spanish and three in English. After finishing one of these pages the book is sent home to look for prefixes in their home and community. These will be shared with the classroom.

#### **Lesson Preparation:**

- Prefix Word Log
- Prefix Detectives Posters on the wall

**Materials:**

- Prefix word log
- Pencils

**Lesson Activities:**

- Continue all lesson activities as in lesson 10
- Engage the students in a conversation about where we can find prefixes. We have found them all over the classroom but where else-Generate a list of places students can find words with prefixes
- Show student the letter they will send home to explain to their parents about their project (below).
- Explain to students that they should mark words found at home with a check mark so they can be distinguished from words that are found in the classroom.

Estimados padres y madres de familia:

Como ya saben este año escolar estoy tomando clases para conseguir mi maestría. El proyecto que decidí hacer en el salón tiene que ver con la manera en que podemos aumentar las estrategias que su hijo/a tiene para descifrar una palabra y como usar el español para facilitar la adquisición del inglés.

Algunos de ustedes ya se enteraron de los proyectos que hemos hecho. Uno de ellos es el de "Esos Poderosos Prefijos". En el español y el inglés hay muchas palabras que tienen los mismos prefijos y varios de los prefijos quieren decir lo mismo en inglés y español. **Un prefijo solamente se encuentra al principio de una palabra y tiene un significado.**

Ejemplos de prefijos son:

<i>sub-</i> que quiere decir abajo	<i>ejemplos-</i> <u>sub</u> marino, <u>sub</u> brayar
<i>re-</i> que quiere decir regresar o denuuevo	<i>ejemplos-</i> <u>re</u> animar, <u>re</u> coger
<i>inter-</i> que quiere decir entre	<i>ejemplos-</i> <u>inter</u> nacional, <u>inter</u> conectado

¡TODOS estos prefijos tienen el mismo significado en inglés! A ver si pueden reconocer lo que quieren decir estas palabras en inglés ya que reconocen los prefijos.

- \* subteranean
- \* rewrite
- \* intercontinental

Pero es muy importante reconocer que a veces las palabras que empiezan con las mismas letras que los prefijos **no tienen el significado del prefijo**. Así en la palabra *renta* o *reloj*, las letras *re* **no es prefijo** porque aquí no quieren decir "regresar" o "denuuevo".

Estaremos mandando a casa un librito en donde pueden encontrar prefijos en casa. Este lo usaré en mi tesis para la universidad. Dondequiera que se vean palabras, en la caja de cereal, en los carteles etc., o hasta cuando escuchen palabras habladas.

Nos hemos divertido mucho en el salón buscando prefijos PERO queremos asegurarles a los niños y niñas que esta estrategia de aprendizaje no solamente existe en el salón pero les ayudará el resto de su vida mientras aprenden palabras en español e inglés.

¡Que se diviertan encontrando prefijos!

Sinceramente,

***Mta. Cox***

p.d.- Les mando la presentación que les di a sus hijos en el salón para explicar los prefijos.

Estimados padres y madres de familia:

Les estaremos mandando el libro de prefijos una última vez. Los últimos prefijos que veremos serán:

<b>Prefijo</b>	<b>Significado</b>
super-	más, superior
anti-	contra, opuesto
pro-	apoyar, estar a favor de
bi-	dos

Favor de recordar:

1. Que hay una columna en español y la de su lado es el mismo prefijo con el mismo significado pero está en inglés. No se preocupen si no saben el inglés.
2. Pero si encuentran una palabra de inglés y es un cognado (que se escribe igual o casi igual y significa lo mismo en inglés y español) favor de escribir una 'c' en un círculo.
3. Traten de terminar la columna hasta abajo.
4. Favor de marcar una palomita en TODAS las palabras que encuentran en su casa, en el mercado, etc.

Se entrega *este* viernes 2 de mayo.

Gracias y que se diviertan.

Mta. Cox

p.d.- Ya les hemos explicado a sus hijos como hacer esto.

Cognate



Hounds

**Mapa de palabra de vocabulario-**

• Definición o sinónimo

Antónimo \_\_\_\_\_  
\_\_\_\_\_

**Palabra de vocabulario**

Usa tú palabra en una oración-

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dibuja la palabra o haz una  
conexión con tu vida

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