# Developing Skills for English Learners through Social Sciences

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## Introduction

One of the biggest challenges in education today is to train teachers effectively to improve instruction for English learners (ELs). No longer is the teaching of English the sole concern of educators but rather they must be concerned with the comprehension of content knowledge found in standards and with the acquisition of academic language proficiency required for effective conceptual development (Chamot & O'Malley, 1994).

This is especially challenging in communities where a large portion of the educational population is made up of English learners. It is also of special concern at the secondary level where teachers struggle to meet the students' needs and prepare them to meet graduation requirements in a very short amount of time.

In a border community in Southern California, teachers are participating in professional development activities that focus on ways to enhance the development of academic language for ELs as they teach social sciences.

## How To Get There

Theorists have indicated that the daily instruction of ELs benefits from being more hands-on, experiential, context-embedded, and cognitively demanding (Cummins, 1989; Freeman & Freeman, 1992). This can occur in all subject areas. Little research, however, has been conducted in the area of social sciences to see if these benefits translate into student achievement.

Furthermore, little is known about the growth in understanding of the teachers who receive training on how to integrate language development and social sciences content instruction for ELs.

The first step taken in this study was to identify which training activities would take place to help teachers deepen their understanding of how ELs learn and the development of skills relative to social sciences. The question to be answered was whether these training activities would result in actual changes in classroom implementation. It is important to note the fidelity of implementation because we cannot assume that training in a particular topic will necessarily transfer to classroom practice (Fullan, 1983).

## Professional Development Activities

In 2001, teachers at the secondary level in rural Imperial Valley in California were asked about how they would like to see their own educational programs change in order to better prepare students to achieve at higher levels in social sciences. This resulted in a sense of ownership being developed by participating teachers in that their suggestions were well received and they believed that their work would make a difference for their students.

Teachers decided that working with units of study would bring about better results for their students. Units that were cohesive and delivered by teachers familiar with strategies for English learners were deemed to be preferable to solely following a textbook or working with state standards in isolation.

### *Training Modules*

In the area of social sciences and history, all activities in professional development were modeled on experiential designs based on materials from the Teacher Curriculum Institute (TCI) and the guidance on how to implement it as described by Ron H. Pahl in *Breaking Away from the Textbook* (2002).

The focus of the summer training was on making history accessible to English learners and teaching academic language functions. This was delivered in a forty-hour module. Topics included:

1. Looking at ELD/history-social science content standards; understanding academic language functions, analyzing content standards for academic language functions;

2. Reading Stages 1-2: focus questions, functional reading; Reading Stages 3-4: Directed Reading Thinking Activity (DRTA), cooperative comprehension, reciprocal teaching, reading a text;

3. Critical thinking: dimensions of learning/Bloom's taxonomy, learning strategies, group problem solving;

4. Social studies skills: cooperative learning principles, teaching social studies/basic skills;

5. Writing: Stages 1-2, Stages 3-4; and

6. Assessment: Student Oral Language Observation Matrix (SOLOM), text-retell, effective test questions, performance assessment, developing rubrics.

During the summer of 2003, sessions included:

1. Introduction to cooperative learning: five basic principles of cooperative leaning, domains of use for cooperative learning, jigsaw, introduction to simple structures;

2. Review: literacy, new science literacy, back and forth: informational text, copy change, role play/drama;

3. Slide lecture and higher order questions, cooperative learning and language functions, higher order questions and tools for thought;

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4. The writing process: persuasive essay;

5. Review performance assessments, types of assessments, developing rubrics; and

6. Introduction to lesson study.

### Student Achievement and Professional Development

Five teachers were involved in professional development activities that used materials from TCI. Teachers learned about the various phases of the program, developed units for their students and implemented them in one or more classes. They also conducted assessments to examine the level of effectiveness of the units on the achievement of students.

Table 1 indicates the number of students (98) affected by instruction provided by teachers (4) who participated in professional development activities. They taught one unit in the traditional way and then taught another in a modified way after learning about strategies through TCI—with the same group of students. Test results for each group were found to be positive and represent an increase in achievement for all groups. All results were highly significant (p=<.01) with the exception of the second entry (Alonso).

In order to determine fidelity of implementation, data were gathered from classroom observations where each teacher's use of strategies was documented. The first teacher, Emma, had the highest increase from this group on student achievement scores. She developed a unit of the Mayas using the History Alive Mesoamerican materials from TCI.

Based on observations and procedures from *Level of Use Interview* (Ebmeier, 2005), a scoring system used to determine level of implementation, Emma has progressed to Level IV-A or Routine level. She knows both the short- and the long-term requirements for use and how to use the innovation with minimal effort. She uses the strategies from the summer institute smoothly with minimal management problems; over time, there is little variation in pattern use. She uses pre-reading activities to develop schema, including visualization, KWL charts, anticipatory guides, and write-pair-share and experiential activities. She uses the slides to contextualize the lectures. She has the students survey the text prior to reading the chapter. The students use reciprocal teaching to read the chapter. This is followed by skill building activities such as map reading, reading a "sacred round" Mayan calendar, vocabulary building, etc. She also uses response groups to problem solve and build critical thinking skills.

While Alonso's student achievement scores were found to show growth, the rate of growth was not found to be significant. Yet, he made some progress in the implementation of units in his classroom. Alonso developed a unit on World War I using the *History Alive* materials from TCI. He uses the strategies from the summer institute smoothly with minimal management problems; over time, there is little variation in pattern use. He does utilize most of the strategies used to build the schema such as experiential activities, KWL and anticipatory guides, contextualization of lectures, and pre-reading strategies.

In addition, he uses critical questions and problem solving activities to analyze the historical events in the unit. He provides advance organizers for the students. Based on observations and *Level of Use Interview*, Alonso has progressed to Level III or Mechanical Use Level. He knows on a day-to-day basis the requirements for using the innovation. He is more knowledgeable about short-term activities and effects than long range activities and effects.

Brian was not one of the teachers with the high increases in achievement. He developed a unit on Market Organization, Mergers, and Monopolies for a 12th grade Economics class. Based on observations and *Level of Use Interview*, Brian has progressed to Level III or Mechanical Use level. He knows on a day-to-day basis the requirements for using the innovation. He is more knowledgeable about short-term activities and effects than long range activities and effects. He manages the strategies with varying degrees of efficiency. Brian uses the pre-reading activities from the summer institute such as KWL, visualization, music, quick writes, and pre-reading survey of the text. Students use reciprocal teaching to read the text. The students also use graphic organizers to organize the data.

Rosemary had the second highest level of achievement of all the teachers in this category. She also developed a unit on the Mayas using the *History Alive* materials from the Teacher Curriculum Institute. Based on *Level of Use Interview*, Rosemary has progressed to level III or Mechanical Use level. She knows on a day-to-day basis the requirements for using the innovation. She is more knowledgeable about short-term activities and effects than long range activities and effects. She reports that logistics, time, management, etc. are the focus of most personal efforts to use the materials and strategies.

Based on the unit of lesson plans she developed, Rosemary uses pre-reading activities to develop schema, including visualization, KWI charts, anticipatory guides, and write-pair-share, and experiential activities. She uses the slides to contextualize the lectures. She has the students survey the text prior to reading the chapter. The students use reciprocal teaching to read the chapter. This is followed by skill building activities such as map reading, reading "sacred round" Mayan calendar, vocabulary building etc. She also uses response groups to problem solve and build critical thinking skills.

Table 2 indicates the number of students (47) affected by instruction provided by one teacher who taught one unit in the traditional way in 2002 and then taught another unit in a modified way after learning about strategies through TCI in 2003—with two different groups of students. Test results were found to be positive and represent an increase in achievement for the group that benefited from instruction after TCI. Results were significant (p=<.01).

Betty's results are based on commercially-produced exams from the textbook publisher for units that she developed in psychology using materials she also developed. Based on observations and *Level of Use Interview*, Betty has progressed to Level IV-A or Routine level. She knows both the short- and long-term require-

**Table 1.**
**Social Science Unit Tests.**

| *Teacher* | *Test Results* | | | |
|---|---|---|---|---|
| | *Number Tested* | *Mean* | *Mean* | *Difference* |
| ***Emma*** | 28 | 64.2357 | 86.1071 | +21.8714 |
| ***Alonso*** | 20 | 54.09 | 58.14 | +4.0539 |
| ***Brian*** | 25 | 60.74 | 69.13 | +8.3926 |
| ***Rosemary*** | 25 | 70.9600 | 90.0000 | +19.0400 |

**Table 2.**

**Social Science Unit Tests, 2002-2003 Comparison.**

| *Teachers* | *Test Results* | | | |
|---|---|---|---|---|
| | *Number Tested* | *Mean* | *Mean* | *Difference* |
| ***Betty: Group I*** | 29 | 8.3793 | 18.1379 | +9.7586 |
| ***Betty: Group II*** | 18 | 8.4444 | 16.8889 | +8.4444 |

ments for use and how to use the innovation with minimal effort or stress. She uses the strategies from the summer institute smoothly with minimal management problems; over time, there is little variation in pattern use.

Betty uses mostly journals to introduce the lesson topic. She relates students' experiences from the journal to the topic. She also uses experiential activities related to psychology and uses them as a spring board for mini-lectures. Prior to reading the text, Betty has the students survey the text.

The results from the observations found for the first three teachers (Table 3) are related in that, the two teachers with low scores (Alonso and Brian) were found to be at the Level III performance stage and Emma, with high scores, was found to be at Level IV. The disconnection occurred with Rosemary. She had relatively high scores and yet was found to be still at the Level III of implementation. Some further research could be conducted to examine what factors may have been in place for this teacher that differed from the others.

## Summary

This study examined the effects of a professional development program in social sciences for English learners. Results from pre- and post-measures of social sciences content indicated greater improvement in student achievement in these areas when scores from students from teachers who had gone through the training were compared with those that did not. There was also a correlation found between the level of use among the teachers with training and the level of achievement of their students.

Perhaps most intriguing in the findings is the level of implementation of certain identified strategies from professional development seminars that were observed. The increase in achievement scores might suggest that teachers were effective in applying the strategies learned. Yet, the level of implementation of those strategies was minimal at best, reaching only a level 3 out of a possible six.

Additional research needs to be conducted to explore the relative ratio of student achievement to the level of implementation of strategies employed by target teachers.

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**Table 3.**

**Test Results Relative to Teachers' Level of Use.**

| *Teacher* | *Test Results* | | | | |
|---|---|---|---|---|---|
| | *Number Tested* | *Mean* | *Mean* | *Difference* | *Level of Use* |
| ***Emma*** | 28 | 64.2357 | 86.1071 | +21.8714 | IV-A |
| ***Alonso*** | 20 | 54.09 | 58.14 | +4.0539 | III |
| ***Brian*** | 25 | 60.74 | 69.13 | +8.3926 | III |
| ***Rosemary*** | 25 | 70.9600 | 90.0000 | +19.0400 | III |