PROJECT STELLAR

Science Teaching for English Learners: Leveraging Academic Rigor
2012 - 2017


Environmental literacy, oral language and expository writing development for Long-Term English Learners

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Elvira Armas, Ed.D., Associate Director
Center for Equity for English Learners - Loyola Marymount University
To improve instruction and educational outcomes for English Learners with special emphasis on LTELs, through high-quality, research-based professional development.
PROJECT STELLAR PARTICIPANTS

Science Teaching for English Learners: Leveraging Academic Rigor

LEAD TEACHERS
District Project Coordinators

CENTER FOR URBAN RESILIENCE (CURes)
LMU TEACHER EDUCATION
COUNSELING FACULTY

Loyola Marymount University
CENTER FOR EQUITY FOR ENGLISH LEARNERS (CEEL)

STEERING COMMITTEE
DISTRICT LEAD TEAM
REPARABLE HARM INSTITUTE

CENTER FOR URBAN RESILIENCE
(CURes)
LMU TEACHER EDUCATION
COUNSELING FACULTY

EVALUATION COMMITTEE

PARTICIPATING TEACHERS
4th – 8th grade (ELA, ELD, Science)
Pre-service and In-service

Long Term English Learners
4th – 8th grades

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California context

- 1.4 million English Learners (24% of enrollment; 33% of elementary enrollment)
- 612 out of 706 LEA/Consortia in CA are in Title III Program Improvement Status
- Increasing gap between ELL and others
English Learner Typologies

- Newly arrived with adequate schooling (including literacy in L1)
- Newly arrived with interrupted formal schooling - “Underschooled” - “SIFE”
- English Learners developing normatively (1-5 years)
- Long Term English Learner
Established a definition for LTELs
Established criteria/indicators of “at risk of becoming LTEL”
Established that the California Department of Education’s responsibility for providing data to districts/sites

Definition: An English Learner at the secondary school level who...

- Has been continuously or cumulatively enrolled in US schools for 6+ years
- Not met reclassification criteria
- Evidence of inadequate progress (e.g., slow, inadequate or stalled progress in English language development)
- Is struggling academically (e.g., GPA of 2.0 or below; grades of D or F in two or more core classes)
The continuum:
Learning English as a second language

Emerging → Expanding → Bridging
1–3 years → 7–10 years

LTELs STUCK HERE

No English
Oral, social English
CELDT Proficient
CST Basic
Proficient for Academic work

Current CELDT Proficiency Levels
# Project STELLAR
## PROFESSIONAL DEVELOPMENT
### Pre-service and In-service Teachers of English Learners

## Project STELLAR Focus Areas

<table>
<thead>
<tr>
<th>Area 1</th>
<th>Core Activities</th>
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</thead>
<tbody>
<tr>
<td>• Content based language and literacy development</td>
<td>• Focused professional development</td>
</tr>
<tr>
<td>• Interdisciplinary approach - Developing academic oral and expository writing skills</td>
<td>• OPAL (Observation Protocol for Academic Literacies) teacher leaders</td>
</tr>
<tr>
<td>• Urban ecology/environmental science</td>
<td>• Focused conversations</td>
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<td></td>
<td>• Urban Ecology curriculum</td>
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<td>• In-classroom support</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Area 2</th>
<th>Core Activities</th>
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<tbody>
<tr>
<td>• Critical Transitions for ELs</td>
<td>• Reparable Harm: Preventing Long Term English Learners Leadership series</td>
</tr>
<tr>
<td></td>
<td>• Summer Bridge Student Program</td>
</tr>
</tbody>
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# Project STELLAR Evaluation Components

## Participants Evaluation Measures

<table>
<thead>
<tr>
<th>Participants</th>
<th>Evaluation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Service Teachers</td>
<td>Course Sequence and Content</td>
</tr>
<tr>
<td></td>
<td>Completion of Credential Requirements</td>
</tr>
<tr>
<td></td>
<td>Attainment of Bilingual Authorization</td>
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<td></td>
<td>Level of Participation in STELLAR PD and Summer Bridge</td>
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<td>In-Service Teachers</td>
<td>Professional Development Participation &amp; Perception of Impact on Practice</td>
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<td>Levels of Urban Ecology for English Learners Curriculum Implementation</td>
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<td>Academic Achievement: Writing Benchmarks Interactive Notebooks</td>
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<td></td>
<td>Participation Numbers, including Summer Bridge Program</td>
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<td></td>
<td>Summer Bridge – Student Surveys (Socio-emotional factors)</td>
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<tr>
<td>Systems for EL Success &amp; Prevention of LTEILs</td>
<td>Leadership Reparable Harm Participation &amp; Perception of Impact</td>
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</table>

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Keys to Matching Professional Development to Student Outcomes

Key #1 - Inputs
- Consider multiple sources of PD
- Track teachers who participate in STELLAR PD

Key #2 - Activities
- Creating systems for data collection and monitoring
- Prioritize student measure(s)

Key #3 - Outcomes
- Identify the problem of practice/inquiry
- Select appropriate analytic process
- Determine impacts based on matching teachers to students

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Impact- Progress towards Reclassification

- Changes in California English Language Development Proficiency
- RFEP – Reclassification to Fluent English Proficiency rates

Student population: 4th – 8th grade students of participating teachers in three districts
Comparison: 4 - 8 grade students in participating districts

Analysis:
-- For participating students, gains from one reporting period to the next
-- For comparison, differences in populations based on pretest, differences in gain scores from one reporting period to next.

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Impact: Writing Benchmarks –
Pre-and Post Writing Assessment

Informational Text Prompt with Scaffolds

Use the information you recorded from the “Visual Text Analysis” to write at least one paragraph that tells how you think humans create and transform neighborhoods into urban ecosystems.

Think about these questions before you write your response:

• What do you see in a neighborhood?
• How do neighborhoods connect with one another?
• Who plans a city?
• How can human actions have an effect on nature?
Standards Connection

ELA CCSS

- Produce clear and coherent writing (including multiple-paragraph texts) in which the development and organization are appropriate to task, purpose, and audience.

- [Write informative/explanatory texts to examine a topic and convey ideas and information clearly.]

ELD – Expanding Level Productive Mode

- Write increasingly concise summaries of text and experiences using complete sentences and key words [e.g. from notes or graphic organizers]
## Pre-Post Writing Assessment Rubric

### Informational Text Structure

<table>
<thead>
<tr>
<th>Component</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>Clearly addresses the topic and engages the reader</td>
<td>Generally addresses the topic</td>
<td>Does not address the topic</td>
<td>The introduction (topic sentence/thesis) is incomplete</td>
</tr>
<tr>
<td><strong>Body</strong></td>
<td>Clearly supports the main idea and provides complete information</td>
<td>Generally supports the main idea and provides adequate information</td>
<td>Minimally support the main idea and provides only basic information</td>
<td>Does not support the main idea and/or provide any essential information</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Fully restates the main idea in a clear, exact manner</td>
<td>Generally restates the main idea</td>
<td>Vaguely restates the main idea</td>
<td>Does not restate the main idea</td>
</tr>
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### Academic Discourse

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<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vocabulary</strong></td>
<td>Includes key urban ecology vocabulary (domain specific) words and academic words</td>
<td>Includes some key urban ecology vocabulary (domain specific) words and academic words</td>
<td>Includes few key urban ecology vocabulary (domain specific) words and academic words</td>
<td>No evidence of urban ecology vocabulary words (domain specific) and academic words</td>
</tr>
<tr>
<td><strong>Syntax/Structure</strong></td>
<td>Uses complex sentences and language structures</td>
<td>Uses sentences and language structures</td>
<td>Uses simple sentences and language structures</td>
<td>Writes using words or phrases and uses limited language structures</td>
</tr>
</tbody>
</table>

### Spelling and Grammar

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<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spelling and Grammar</strong></td>
<td>Makes a few minor errors in capitalization, punctuation, spelling and grammar</td>
<td>Makes some errors in capitalization, punctuation, spelling and grammar</td>
<td>Makes many errors in capitalization, punctuation, spelling and grammar</td>
<td>Punctuation and spelling errors prevent understanding</td>
</tr>
</tbody>
</table>

### Metacognitive/Metalinguistic Reflection

<table>
<thead>
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<th>4</th>
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<tr>
<td><strong>Identifies all scientific and transition words accurately</strong></td>
<td></td>
<td>Identifies many scientific and transition words accurately</td>
<td>Identifies a few scientific and transition words OR inaccurate identification</td>
<td>Does not complete the metacognitive reflection</td>
</tr>
</tbody>
</table>
LAND USE PROPOSAL OUTLINE

I. Introduction — Topic or Thesis Statement
II. Development of the Problem
III. Proposed Solution (s)
IV. Conclusion
Review resources to guide your students’ development of the land use proposal.

Pre-view lessons that will help ELs be better prepared to succeed in writing a land use proposal.
Project Assessment Rubric

- **Part I: Land Use Proposal**
  - **WRITING CRITERIA:**
    - Introduction
    - Development of the Problem
    - Proposed Solution(s)
    - Conclusion
    - Academic Discourse
    - Spelling & Grammar
    - Collaboration

- **Part II: Land use Map**
  - **CRITERIA: 21st Century Skills**
    - Critical Thinking & Problem Solving
    - Creativity & Innovation
    - Communication
    - Collaboration

- **Part III: Oral Presentation**
  - **SPEAKING CRITERIA:**
    - Academic Discourse
    - Communication
Interactive Notebooks for English Learners – A Tool to Develop Thinking & Writing

Why are interactive notebooks an effective tool for developing thinking and writing for English Learners?

**LONG-TERM MEMORY & ORGANIZATION:**
Linguistic + non-linguistic representation

**ASSESSMENT:**
Lens for Assessment for ELD Standards

**CCSS, ELA & ELD:**
Write often and daily for varied purposes

**TOOL FOR COMMUNICATION:**
Teacher – Student - Parent

**METACOGNITION AND HIGHER LEVEL THINKING:**
Application – Creation - Connections
Interactive Notebook

Left Side
Student Output
Lots of Color
The brain remembers things in color better.

- Concept Maps
- Drawings
- Reflective Writing
- Questions
- Data and Graphs
- Songs
- Poems
- Data from Experiments
- Cartoons or cartoon strips

Right Side
Teacher Input/Content
Blue or Black Ink/pencil

- Information given in class
- Lecture Notes
- Lab Activities
- Video Notes
- Summaries
- Textbook Notes
- Procedures for experiments
- Classroom Specific Information

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Output
(student's thoughts)
My opinion on the decreasing population of Tree Swallows in our city is this: I feel that this can be fixed and I’m not happy that this is a growing problem. This is what I learned today. I learned that the population of the Tree Swallows that migrate here is decreasing. They are decreasing because they lay their eggs in dead wood, but the people in Los Angeles don’t want it there. They want to build buildings with it so they can get more money, and we are going to do something about it. We are going to build houses of our own and give it to the Tree Swallows hoping they will come every spring to visit us.

Input
(teachers notes)
Growing Problem
The number of Tree Swallows that migrate to our city every spring is decreasing.

Urban Ecologist
“A person who studies about the city we live”

Urban = of a city, belong to a city
Ecologist = a person who studies about where we live
My opinion on the decreasing population of tree swallows in our city is that I feel like they are helping us. We should help them. What I learned today they eat bugs to keep us alive.

Growing problems
The number of tree swallows that migrate our city every spring is decreasing. Urban Ecologist: A person who studies about city where we live. Someone who helps us.
### INTERACTIVE NOTEBOOK Assessment

**Lens - Sample**

<table>
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<th>To what extent did the student exhibit content understanding?</th>
<th>To what degree did the student use academic language to convey content knowledge?</th>
<th>How do you think the “input” (right side) influenced the “output” (left side)?</th>
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<td><strong>Sample EL 4th grade</strong></td>
<td><strong>Low – Mid – High</strong></td>
<td><strong>Low – Mid – High</strong></td>
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<tr>
<td>- Identifies problem</td>
<td>- Minimal use of general and specific academic vocabulary</td>
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| - Identifies service provided by tree swallows | - Use of simple sentences with fragmented conditional statements, e.g.  
  **[Because]** they are helping us, we should… | |
| - Supports opinion with minimal facts | | |

*Sample assessment criteria and examples.*
Socio-Emotional Questionnaires

Summer Bridge Program Themes:

- **Eagerness** as well as a **willingness** to learn English
- Expressions of *liking to learn* seemed to correspond with their receipt of **positive feedback/reinforcement** (e.g., verbal, behavioral)
- **Evidence of family support** to learn English
- Defined students’ needs for **affiliation** and to feel like they **belonged**
- Expressions of needs for **feeling cared for** and knowing that **teachers and parents were invested in them**
- **Feel safe** during Summer Bridge Program
## Project Evaluation-PD Impacts on EL student outcomes

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