



CAL POLY



AgWrite*Culture*

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- three-year grant funded by USDA (NIFA HEC)

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- Partnership between Cal Poly's English department (ENGL) and department of Natural Resources and Environmental Sciences (NRES)

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- GOAL: to develop a vertical sustainability curriculum combining environmental science and written communication linking GE courses to the majors

Interdisciplinary Challenges

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- Recruiting a cohort of students to co-enroll
- Working within existing courses and programs
- Mapping course curricula between STEM and Humanities courses

Framing Concept #1: Sustainability Literacy

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- Among these skills are communication skills, decision-making skills, and creativity (Kokkarinen and Cotgrave 56).
- Literacy is a set of skills for communicating across stakeholder differences in an attempt to negotiate equitable social change (Peck, Flower and Higgins 1995).

Framing Concept #1: Sustainability Literacy

Working definition: Sustainability literacy is a socially-situated set of writing and research practices responsive both to the needs of sustainable development and to the everyday experiences of stakeholders, constituents, and neighbors. Sustainability literacy integrates the “knowing” of sustainability science with the “know how” of cultivating sustainable communities.

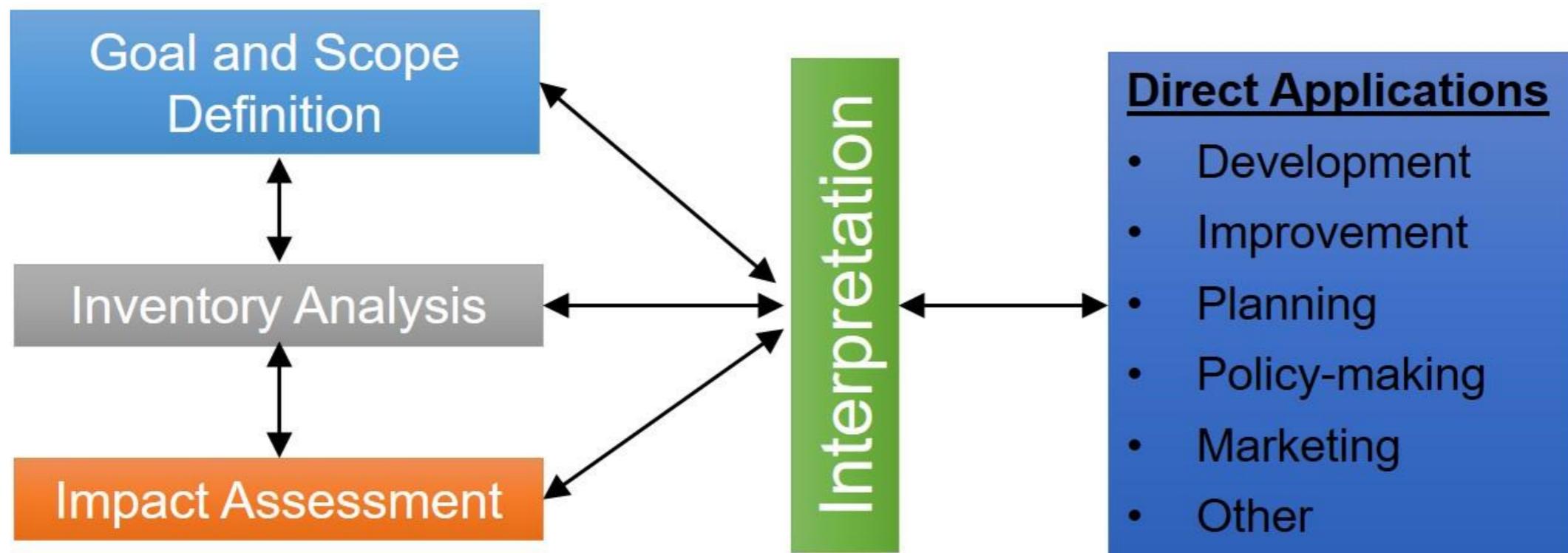
Doing Sustainability Literacy: LCA

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- LCA = Life-Cycle Assessment

Doing Sustainability Literacy: LCA

Life-Cycle Assessment

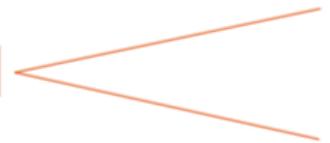
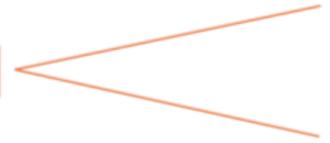
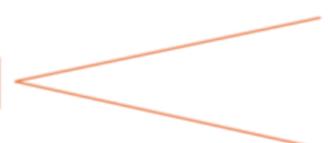


Doing Sustainability Literacy: S-LCA

- **S-LCA = Social Life-Cycle Assessment**

Doing Sustainability Literacy: S-LCA

Social Life-Cycle Assessment

Stakeholder categories	Impact categories	Subcategories	Inv. indicators	Inventory data
Workers	Human rights			
Local community	Working conditions			
Society	Health and safety			
Consumers	Cultural heritage			
Value chain actors	Governance			
	Socio-economic repercussions			

Teaching Sustainability Literacy: First-Year Courses

- **ENGL 134** Writing and Rhetoric
- **NR 142** Environmental Management

Teaching Sustainability Literacy: First-Year Courses

Linked Assignments

- Write a Place Narrative (ENGL 134)
- Develop a Research Question (NR 142)

Teaching Sustainability Literacy: First-Year Courses

Shared Goals for First Assignment

- **Goal 1A.** Use humanistic approaches to place (history, identity, culture, ethics) and scientific inquiry (systems thinking, observation, data collection, and analysis) to better understand human environmental impacts

Teaching Sustainability Literacy: First-Year Courses

Shared Goals for First Assignment

- **Goal 1A.** Use humanistic approaches to place (history, identity, culture, ethics) and scientific inquiry (systems thinking, observation, data collection, and analysis) to better understand human environmental impacts
- **Goal 1B.** Explore the use of first-person experience, testimony, and self-reporting as evidence for writing and research

Teaching Sustainability Literacy: First-Year Courses

Shared Learning Outcome

Understand the basic dimensions of human relationships to place and the environment

Teaching Sustainability Literacy: Third-Year Courses

- **ENGL 302** Advanced Composition
- **NR 314** Environmental Measurements and Interpretation

Teaching Sustainability Literacy: Third-Year Courses

Shared Learning Outcomes

- Practice writing strategies for effectively negotiating the competing interests of multiple, real-world stakeholders in the creation of a sustainable system

Teaching Sustainability Literacy: Third-Year Courses

Shared Learning Outcomes

- Practice writing and research strategies for effectively negotiating the competing interests of multiple, real-world stakeholders in the creation of a sustainable system
- Integrate quantitative and qualitative research, rhetorical analysis and argumentation into effective writing that informs, convinces and persuades diverse audiences

Teaching Sustainability Literacy: Third-Year Courses

Shared Goals

- **Goal 2A:** Identify a range of stakeholders impacted by an environmental issue

Teaching Sustainability Literacy: Third-Year Courses

Shared Goals

- **Goal 2A:** Identify a range of stakeholders impacted by an environmental issue
- **Goal 2B:** Use one quantitative and one qualitative measure to analyze environmental impact

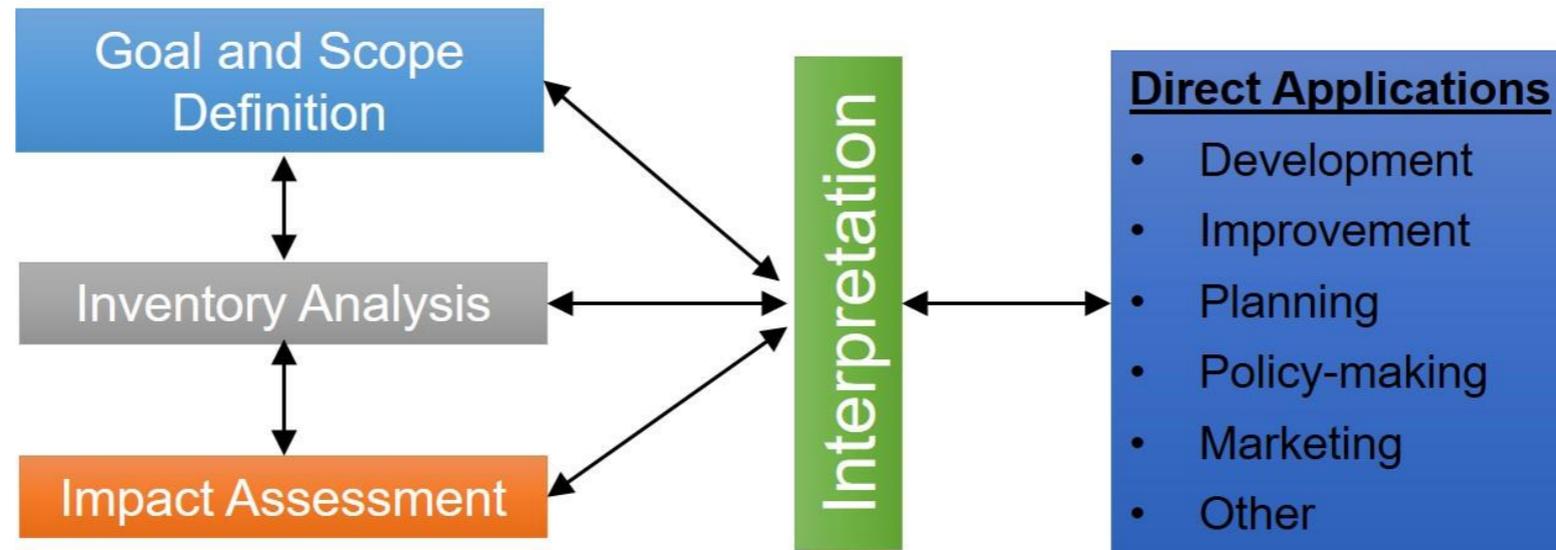
Teaching Sustainability Literacy: Third-Year Courses

Linked assignments

- Stakeholder analysis (ENGL 302)
- LCA Technical Report (NR 314)

Teaching Sustainability Literacy: Third-Year Courses

LCA:



S-LCA:

Stakeholder categories	Impact categories	Subcategories	Inv. indicators	Inventory data
Workers	Human rights	■		
Local community	Working conditions	■		
Society	Health and safety	■		
Consumers	Cultural heritage	■		
Value chain actors	Governance	■		
	Socio-economic repercussions	■		

Student LCA Example

“This study is a gate-to-gate study which assesses the environmental impact of an 18/8 stainless steel water bottle and a plastic water bottle from the manufacturing at a factory to delivery to a consumer in San Luis Obispo, California. In this study, Open LCA software was used to analyze data and TRACI method was applied without allocations to quantify environmental impacts in global warming, acidification, ecotoxicity, eutrophication, photochemical oxidation, ozone depletion, resource depletion, human health, and respiratory effects.”

Student S-LCA Example

“When analyzing the dynamic of waste management, it is imperative to identify the various stakeholders in this situation.... For example, Cal Poly students’ disregard for proper waste practices bears a greater burden on custodial management who are pushing towards sustainability. There is a disproportionately large emphasis on custodial responsibility in order to complete the goals of Zero-Waste. The responsibility should be placed back on students to create a better balance because students should hold an equitable burden. By doing this, we are able to relieve custodians’ efforts in waste management. The question is whether or not we can effectively redesign the conditions of the relationship.”

Responding to Interdisciplinary Challenges

- Need for a GE pathway in sustainability studies

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- Need for upper-level writing in the disciplines (WID) courses as major requirements
- Need for upper-level STEM courses in GE
- Need for S-LCA professional development in humanities and social sciences

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