

Reading, Writing, & Critical Thinking: Using Qualitative & Quantitative Methods Across the Curriculum

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Curricular Purpose: *Developing foundational skills.* Introductory freshman courses in the disciplines need to incorporate a *range of methods* in order to help students develop a solid foundation of reading, writing, and critical thinking skills. These *foundational skills* can be transferred to their intended major discipline during the junior year, to graduate school, and to the labor market. Likewise, traditional freshman and sophomore composition courses need to incorporate a range of disciplinary methods, especially quantitative methods into the composition curriculum. This curriculum is intended to use the "project method" to design modules that can be used in specific freshman/sophomore discipline courses, including composition.

Curriculum: This curriculum is epistemologically based on two principles: the sociology of knowledge (i.e. that all knowledge, even scientific knowledge, is created in socially contingent processes)¹ and cognitive science (i.e. that all human mental processes both represent reality and act on reality simultaneously).² These principles were originally applied educational philosophy by John Dewey³ and applied to educational curriculum via "the project method" by William Heard Kilpatrick.⁴ The project method is centered on a practical application of academic information and disciplinary methods by which individual students or groups solve a problem or answer a question through a complex activity utilizing several learning modes. This type of curriculum is connected to broader movements to redefine disciplinary learning in classrooms to find more ways to teach concrete "practices" as apposed to simply transferring isolated content (data) via standardized tests.⁵

¹ Peter L. Berger and Thomas Luckman, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* (New York, 1966); Steven Shapin, *Never Pure: Historical Studies of Science as if It Was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority* (Baltimore, 2010). For specific applications to curriculum see Michael Young, "From Constructivism to Realism in the Sociology of the Curriculum," *Review of Research in Education* 32 (Feb 2008), 1-28.

² John R. Searle, *Consciousness and Language* (Cambridge, UK, 2002), 134.

³ John Dewey, *Education and Democracy: An Introduction to the Philosophy of Education* (New York, 1916); John Dewey, *Experience and Education* (New York, 1938).

⁴ Ellen Condliffe Lagemann, *An Elusive Science: The Troubling History of Education Research* (Chicago, 2000), 109.

⁵ Michael J. Ford and Ellice A. Forman, "Redefining Disciplinary Learning in Classroom Contexts," *Review of Research in Education* 30 (2006), 1-32.

Learning Modes:

1. Textbooks:

- (a) read portions of text, especially data and charts & graphs

2. Small group discussion:

- (a) discuss findings and how data was collected & analyzed
- (b) discuss new research question & how data could be collected
- (c) instructor lead question & answer based on group work

3. In-class writing:

- (a) summary paragraphs on data collection, data analysis, and meaning of a particular chart or graph
- (b) analysis paragraph on limitations of data
- (c) analysis paragraph additional research questions that could be asked and what kind of data could be collected

4. Microsoft Word

- (a) abstracts of texts and/or charts and graphs
- (b) outlines (concepts and/or formal essays)
- (c) Formal essay that uses data from text to answer research question

5. Microsoft Excel

- (a) input and organize data
 - (1) data from text to reproduce chart or graph
 - (2) collect new data and produce chart or graph
- (b) concept map and/or flow chart

6. Microsoft PowerPoint

- (a) Present abstract of formal essay and student produced charts (individual presentations and/or group presentations)

7. Email/social media

- (a) further group discussion outside of classroom
- (b) data collection via survey (optional)

8. Database research

- (a) research additional books/articles for research based essay
- (b) research data archives for data collection (optional)

9. Survey design (optional, for statistical analysis of data)

10. Statistical software (optional)

- (a) students collect data, input, and analyze
 - (1) descriptive statistics
 - (2) co-variant analysis
 - (3) multi-variant analysis
 - (4) regression analysis

****Instructors can choose various learning modes to fit the content and constraints of a particular course.**

- Student Outcomes:
1. Comprehension of course concepts, conclusions, and data
 - (a) comprehension of textbook concepts and conclusions
 - (b) comprehension of charts/graphs and data
 - (c) comprehension of data collection and analysis
 2. Critical thinking
 - (a) understand how data is collected and analyzed
 - (b) understand how data supports conclusions
 - (c) understand limits of data and conclusions
 3. Effective communication
 - (a) demonstrate in-formal writing and concept mapping
 - (b) demonstrate formal outlines
 - (c) demonstrate formal research essays
 - (d) demonstrate data analysis and the production of charts/graphs
 - (e) demonstrate public presentation of research
 4. Effective Use of Information Technology
 5. Effective Group Discussion and Problem Solving

Instruction: Effective educational practice in universities requires five basic components: "(1) level of academic challenge, (2) active and collaborative learning, (3) student-faculty interaction, (4) supportive campus environment, and (5) enriching educational experiences."⁶ An effective curriculum cannot be simply transferred to any instructional context. As Kuh et. al. stated in their important study, *Student Success in College: Creating Conditions that Matter*, "simply offering various programs and services does not foster student success. Programs and practices must be tailored to and resonate with the students they are intended to reach, be of reasonably high quality, and actually touch large numbers of students *in a meaningful way*" [author's emphasis].⁷ This includes carefully planned course reading, writing reports and papers, and engaging students actively in "analyzing, synthesizing, applying theories, and making judgments," while also creating conditions of "academic challenge" and "rigor."⁸ Thus, for the project method to be truly effective, there needs to be a preliminary analysis of the existing curriculum and the course instructor so as to tailor the project to fit the pre-existing aims of a disciplinary course. And there would need to be follow-up review to analyze how particular projects were received, both by students and the course instructor.

⁶ George D. Kuh, Jillian Kinzie, John H. Schuh, Elizabeth J. Whitt, and Associates, *Student Success in College: Creating Conditions that Matter* (San Francisco, 2005), 174.

⁷ Ibid., p. 264.

⁸ Ibid., p. 177.

I. Sample Curriculum: History (Cliometrics)

Project #1: How profitable was slavery?

Engerman & Fogel, *Time on the Cross*

Atack & Passell, *A New Economic View of American History*, ch 11 & 12

Project #2: After emancipation, where southern blacks economically free?

Ransom & Sutch, *One Kind of Freedom*

Atack & Passell, *A New Economic View of American History*, ch 14

Project #3: What is the "Gender Gap"? Understanding wage discrimination in US

Goldin, *Understanding the Gender Gap: An Economic History of American Women*

II. Sample Curriculum: Economics

Project #1: Who gets into college and why? Should all students go to college?

Grubb & Lazerson, *The Education Gospel? The Economic Power of Schooling*

Beach, *A Gateway to Opportunity? A History of the Community College in US*

Phillippe & Sullivan, *National Profile of Community Colleges: Trends & Statistics*

Rosenbaum, *Beyond College for All: Career Paths for the Forgotten Half*

Shaw et. al., *Putting Poor People to Work: How the Work-First Idea Eroded College Access for the Poor*

Wolf, *Does Education Matter? Myths about Education & Economic Growth*

Project #2: What is poverty and how is it measured?

Mishel, et. al., *State of Working America* (various editions)

Iceland, *Poverty in America: A Handbook*

Project #3: What is economic inequality?

Goldin, *Understanding the Gender Gap: An Economic History of American Women*

Rose, *Social Stratification in the US: The American Profile Poster*

Mishel, et. al., *State of Working America* (various editions)

Jacobs & Skocpol, *Inequality & American Democracy*

III. Sample Curriculum: Sociology

Project #1: What is the state of America? A survey approach to the data

Igo, *The Averaged American: Surveys, Citizens, and the Making of a Mass Public*

Bronfenbrenner, et. al., *The State of Americans*

Putnam, *Bowling Alone*

for data and survey instruments see:

Survey of American Public Culture, Institute for Advanced Studies in Culture, 3 vols

Project#2: Who goes to prison and why? What are consequences of incarceration?

Western, *Punishment and Inequality in America*

Pager, *Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration*

(1) Data Source: **Economic Policy Institute** < <http://www.epi.org/> >

The following introduction is from the EPI website:

"The Economic Policy Institute, a nonprofit Washington D.C. think tank, was created in 1986 to broaden the discussion about economic policy to include the interests of low- and middle-income workers. Today, with global competition expanding, wage inequality rising, and the methods and nature of work changing in fundamental ways, it is as crucial as ever that people who work for a living have a voice in the economic discourse.

EPI was the first — and remains the premier — think tank to focus on the economic condition of low- and middle-income Americans and their families. Its careful research on the status of American workers has become the gold standard in that field. Its encyclopedic *State of Working America*, issued every two years since 1988, is stocked in university libraries around the world. EPI researchers, who often testify to Congress and are widely cited in the media, first brought to light the disconnect between pay and productivity that marked the U.S. economy in the 1990s and is now widely recognized as a cause of growing inequality.

EPI's staff includes eight Ph.D.-level researchers, a half dozen policy analysts and research assistants, and a full communications and outreach staff. EPI also works closely with a national network of prominent scholars. The institute conducts original research according to strict standards of objectivity, and couples its findings with outreach and popular education. Its work spans a wide range of economic issues, such as trends in wages, incomes, and prices; health care; education; retirement security; state-level economic development strategies; trade and global finance; comparative international economic performance; the health of manufacturing and other key sectors; global competitiveness and energy development. Its research is varied, but a common thread runs through it: EPI examines issues through a "living standards" lens by analyzing the impact of policies and initiatives on the American public.

From its findings, EPI publishes books, studies, issue briefs, popular education materials, and other publications; sponsors conferences and seminars; briefs policy makers at all levels of government; provides technical support to national, state, and local activists and community organizations; testifies before national, state, and local legislatures; and provides information and background to the print and electronic media. Over the course of a year, EPI is called upon hundreds of times to inform policy debates, citizens' group meetings, and educational forums.

EPI is typically cited in the media more than 20,000 times per year, including more than 15,000 mentions per year in print and online media. EPI is mentioned and/or its staff are seen or heard by over 300 million television or radio viewers or listeners per year.

EPI has always demanded a high standard of quality in its research because of its desire to be a credible participant in public debates and a reliable source of information and analysis for policy makers, the press, community activists, academics, corporate leaders, labor union officials, and the general public. Its methods for ensuring that its research methodologies and outcomes are exemplary include the use of highly qualified researchers and multiple reviews by outside experts, including those who are known for disagreeing with EPI's values. In-house researchers maintain their standing in the academic community by publishing findings in prestigious peer-reviewed academic journals, like the *American Economic Review* and the *New England Journal of Medicine*.

Its founders include Jeff Faux, EPI's first president; economist Barry Bluestone of Northeastern University; Robert Kuttner, columnist for *Business Week* and *Newsweek* and editor of *The American Prospect*; Ray Marshall, former U.S. secretary of labor and professor at the LBJ School of Public Affairs, University of Texas-Austin; Robert Reich, former U.S. secretary of labor and professor at UC Berkeley; and economist Lester Thurow of the MIT Sloan School of Management.

EPI is a 501(c)(3) corporation. In 2005 through 2007, a majority of its funding (about 53%) was in the form of foundation grants, while another 29% came from labor unions. EPI also receives support from individuals, corporations, and other organizations."

Economic Policy Institute Multimedia Data Sources

Economy Track

<http://www.economytrack.org/> (intro video)

State of Working America

(published every two years
by Cornell University Press)

<http://www.stateofworkingamerica.org/>

<http://www.stateofworkingamerica.org/tabfig.html>

Family Budget Calculator

http://www.epi.org/content/budget_calculator/

Pay Wizard

(Harvard University
School of Law)

<http://www.paywizard.org/main>

EPI Lectures/Conferences on U-Tube

<http://www.youtube.com/user/EPIdotORG>

EPI Datazone

http://www.epi.org/resources/datazone_index/

(2) Data Source: **U.S. Census Bureau** < <http://factfinder.census.gov/home/saff/main.html? lang=en> >

Data Sets http://factfinder.census.gov/servlet/DatasetMainPageServlet? program=DEC& submenuId=datasets_0& lang=en

Fact Sheets

http://factfinder.census.gov/servlet/ACSSAFFFacts? event=&geo_id=01000US& geoContext=01000US& street=& county=& cityTown=& state=& zip=& lang=en& sse=on&ActiveGeoDiv=& useEV=&pctxt=fph&pgsl=010& submenuId=factsheet_1&ds_name=null& ci_nbr=null&q_r_name=null®=null& keyword=& industry=

Maps http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp? pageId=thematicmaps& submenuId=maps_0

(3) Data Source: **Pew Research Center** < <http://pewresearch.org/>

Topic Index <http://pewresearch.org/topics/>

Data Bank <http://pewresearch.org/databank/>

Interactive Data <http://pewresearch.org/interactive/>

(4) Data Source: **Pew Forum on Religion & Public Life** < <http://pewforum.org/> >

Topics <http://pewforum.org/Topics/>

Data Sets <http://pewforum.org/Datasets/Dataset-Download.aspx>

I-Poll <http://pewforum.org/iPoll.aspx>

Graphics <http://pewforum.org/Publications/Graphics/>