

Disciplinary Differences in Engaged Scholarship: What Research Tells Us

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Why Consider Disciplinary Variations?

In *The Academic Life*, Clark reminds us that faculty occupy “niches” They are “individuals with dual memberships in institutions and subjects” (Clark, 1987, p. 42)

Within each **discipline**, a unique subject matter defines the dimension of knowledge, the modes of inquiry, the significant reference groups, the work experiences, and the rewards of the faculty within in them.

Within **institutions**, a stratified system of multiple faculty roles preserves a hierarchical arrangement of diverse goals and achievements (Stoecker, 1993, p. 451)

Disciplinary characteristics are stronger influences on faculty than institutional affiliations (Bowen & Schuster, 1986; Ladd & Lipset, 1975).



Research on Disciplines Using Biglan

- Faculty goal orientation
 - (Smart & Elton, 1975)
- Research output
 - (Creswell & Bean, 1981)
- Faculty salary & instructional staffing patterns
 - (Muffo & Langston, 1981)
- Professional success, research opportunities, faculty conservatism, character development
 - (Smart & Elton, 1982)
- Graduate education
 - (Malaney, 1986)
- Students' epistemological beliefs
 - (Schommer-Aikins, Duell, & Barker, 2003)
- Faculty time use, type of faculty scholarly output, source of funding for research, faculty attitudes
 - (Stoecker, 1993)
- Choice of methodological approach to research
 - (Alise & Teddlie, 2010)



Biglan's Three Dimensions

Pure or Applied: the degree of concern with application of disciplinary knowledge

Hard or Soft: the degree to which paradigm consensus exists in the field

Life or Non-life Systems: whether or not the discipline is concerned with living organisms



Biglan's Classification of Academic Disciplines

	Hard		Soft	
	Non-Life	Life	Non-Life	Life
Pure	Astronomy Chemistry Geology Mathematics Physics	Botany Entomology Microbiology Physiology Zoology	English German History Philosophy Russian Communications	Anthropology Political science Psychology Sociology
Applied	Ceramic engineering Computer science Mech. engineering Civil engineering Nuclear engineering	Agronomy Dairy science Horticulture Ag. economics	Accounting Finance Economics	Ed. administration Secondary education Special education Vocational Education

(Biglan, 1973b)

Research Questions

Does the analysis using the Biglan Classification of Academic Disciplines reveal variations in faculty members' publicly engaged scholarship?

1. Are there disciplinary variations in the **types of activities** that faculty members reports as their publicly engaged scholarship?
2. Are there disciplinary variations in the **intensity of activity** that faculty members reports as their publicly engaged scholarship?
3. Are there disciplinary variations in the **degree of engagement** that faculty members reports as their publicly engaged scholarship?



Key Constructs

Types of Activities employed a typology of scholarly outreach and engagement activities with 4 broad categories and 14 sub-categories (see handout).

Intensity of Activity included types of engagement activities, number of different types of engagement activities, frequency and duration of the engagement activities, scholarly output related to the activities, and awards/recognitions received for publicly engaged scholarship.

Degree of Engagement focused on depth of collaboration and included the direction or flow of information or knowledge; locus of control in decision making; extent of collaboration at different stages of the engagement process; and recognized sources of new knowledge or understanding associated with publicly engaged scholarship.

(Doberneck, Glass, Schweitzer, 2010; Doberneck, Glass & Schweitzer, 2012)




Approach to Research

Source: Faculty members' RPT documents

- 2002-2006 across one research-intensive, land-grant, Carnegie-engaged institution in the midwest
- 173 faculty members gave consent
- Chi square analysis showed study sample was NOT significantly different than faculty population during study time period—incl. gender, race/ethnicity, primary college, and rank.

Initial Coding & Analysis: Interpretive content analysis

- Written texts or narratives, with interpretation of “key word in context” with meaning unit as unit of analysis, not individual words (i.e. the ‘community’ problem)
 - Through coding, groupings emerge that are then used to determine frequencies and conduct further analysis—qualitative data (written text) is transformed to quantitative data
 - Data initially coded with absence/presence codes for types, holistic coding for intensity of activity and degree of engagement
- 

Faculty Coded with Biglan Classifications

Faculty members were assigned Biglan codes based upon the department in which they held **primary** appointments.

	Hard		Soft	
	Non-Life	Life	Non-Life	Life
Pure	12%	14%	15%	10%
Applied	4%	26%	9%	10%
Total Number	28	69	42	34

Any questions so far?



Pure vs. Applied

	Hard		Soft	
	Non-Life	Life	Non-Life	Life
Pure	Astronomy Chemistry Geology Mathematics Physics	Botany Entomology Microbiology Physiology Zoology	English German History Philosophy Russian Communications	Anthropology Political science Psychology Sociology
Applied	Ceramic engineering Computer science Mech. engineering Civil engineering Nuclear engineering	Agronomy Dairy science Horticulture Ag. economics	Accounting Finance Economics	Ed. administration Secondary education Special education Vocational Education

Finding 1: Pure/Applied Types of Activities

Pure vs. Applied

(the degree of concern with application of disciplinary knowledge)

Pure

none

Applied

overall publicly engaged scholarship

overall engaged research and creative activities

research—business, industry, community group

research—nonprofit, foundation, government

overall instruction

instruction—noncredit—public understanding

overall service

service—technical assistance, expert testimony, legal

service—advisory board or other disciplinary related



Hard vs. Soft

	Hard		Soft	
	Non-Life	Life	Non-Life	Life
Pure	Astronomy Chemistry Geology Mathematics Physics	Botany Entomology Microbiology Physiology Zoology	English German History Philosophy Russian Communications	Anthropology Political science Psychology Sociology
Applied	Ceramic engineering Computer science Mech. engineering Civil engineering Nuclear engineering	Agronomy Dairy science Horticulture Ag. economics	Accounting Finance Economics	Ed. administration Secondary education Special education Vocational Education

Finding 2: Hard/Soft Types of Activities

Hard vs. Soft

(the degree to which paradigm consensus exists in the field)

Hard

overall publicly engaged scholarship
research—business, industry, commodity group
instruction—non-credit—classes and programs
service—patient, clinical, and diagnostic services
commercialized activities

Soft

research—unfunded or intramurally funded
instruction—for credit—nontraditional audiences



Live vs. Non-Life

	Hard		Soft	
	Non-Life	Life	Non-Life	Life
Pure	<ul style="list-style-type: none"> Astronomy Chemistry Geology Mathematics Physics 	<ul style="list-style-type: none"> Botany Entomology Microbiology Physiology Zoology 	<ul style="list-style-type: none"> English German History Philosophy Russian Communications 	<ul style="list-style-type: none"> Anthropology Political science Psychology Sociology
Applied	<ul style="list-style-type: none"> Ceramic engineering Computer science Mech. engineering Civil engineering Nuclear engineering 	<ul style="list-style-type: none"> Agronomy Dairy science Horticulture Ag. economics 	<ul style="list-style-type: none"> Accounting Finance Economics 	<ul style="list-style-type: none"> Ed. administration Secondary education Special education Vocational Education



Finding 3: Life/Non-Life Types of Activities

Life vs. Non-Life

(whether or not the discipline is concerned with living organisms)

Life

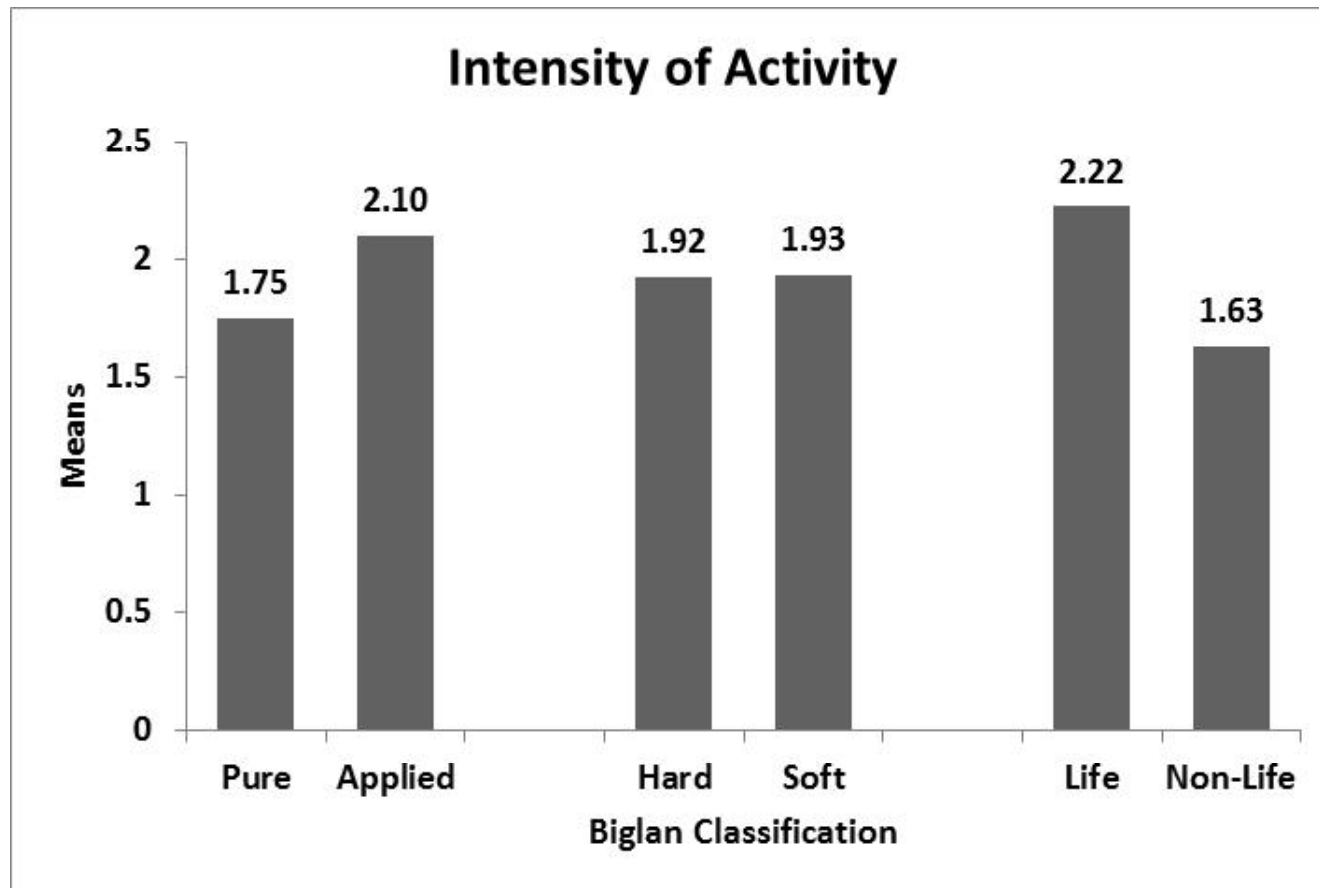
overall engaged research and creative activities
research—non-profit, foundation, government funded
overall engaged service
service—technical assistance, expert testimony, legal
service—patient, clinical, diagnostic services

Non-Life

none



Finding 4: Intensity of Activity



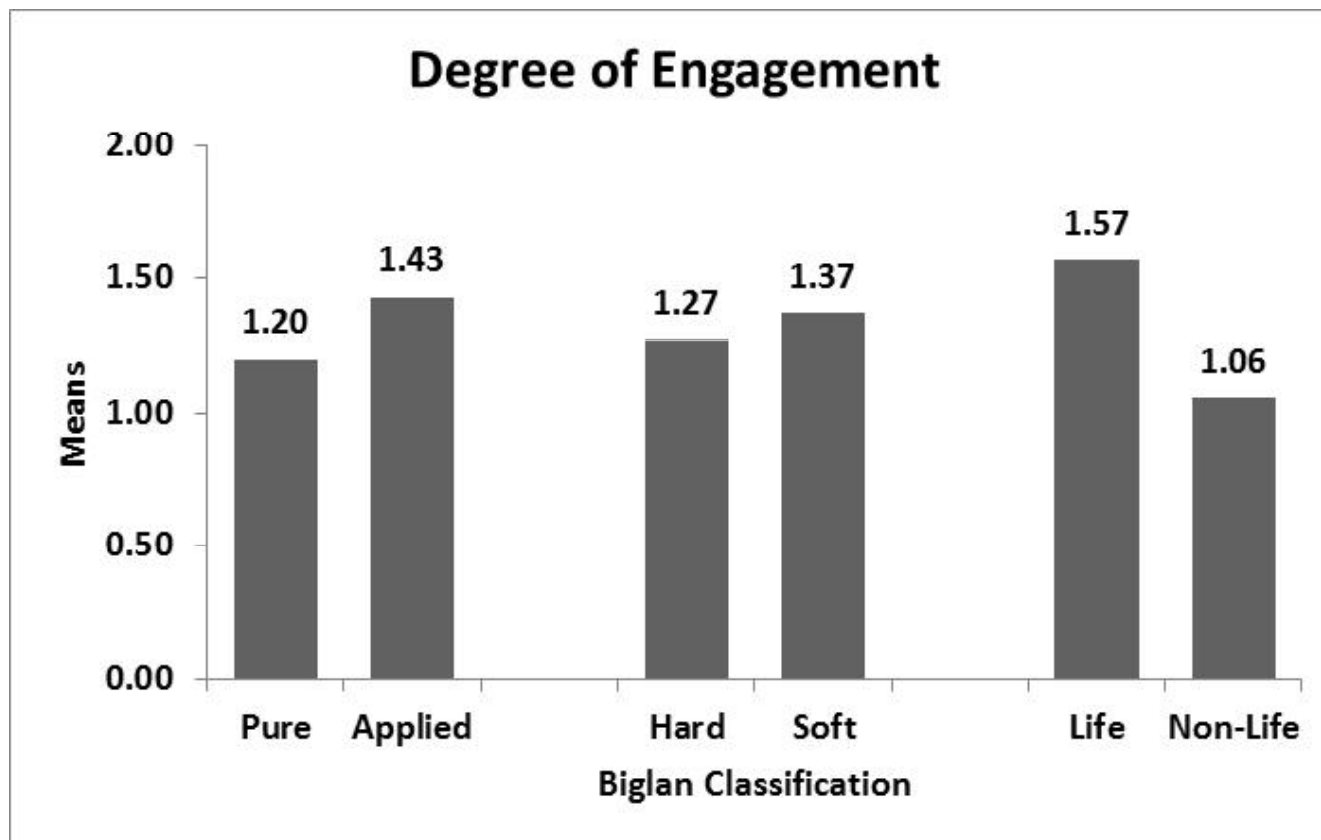
Pure vs. Applied—statistically significant $p < .031$ (applied)

Hard vs. Soft—not statistically significant, $p < .145$

Life vs. Non-life—statistically significant, $p < .000$ (life)



Finding 5: Degree of Engagement



Pure vs. Applied—almost statistically significant, $p < .07$ (applied)

Hard vs. Soft—**not** statistically significant, $p < .874$

Life vs. Non-life—statistically significant, $p < .000$ (life)



Conclusions

Analysis using Biglan's Classification of Academic Disciplines does reveal differences along the three dimensions: Pure/Applied, Hard/Soft, Life/Non-Life.

The disciplinary categories showing statistically significant differences include the following:

- Types of Activities (applied, hard, soft, life)
- Intensity of Activity (applied, life)
- Degree of Engagement (life)



Implications

Institutional and Department Levels

- Diversify examples celebrated institutionally
- Modify Reappointment, Promotion, Tenure policies—both comprehensively and flexibly
- Offer support for publicly engaged scholarship strategically

Faculty and Graduate Student Professional Development

- Recognize and appreciate disciplinary variations
 - Broad understanding (e.g., not get in way, recognize value)
 - Personal understanding of range of options and choices throughout career stages
- Consider modifications in curriculum/content



Future Directions

Expand this analysis to other similar and different institutions

- *Does this analysis hold true at other research-intensive, land-grant, Carnegie-engaged institutions?*
- *Does this analysis reveal similar results at other types of institutions?*
- *Is there a difference between institutions with/without Carnegie Engagement classification?*

Use Biglan Classification to analyze more recent data

- *Nature of faculty work has changed since 2006. How does the next generation of scholars approach their publicly engaged scholarship?*
- *Do these findings hold true for publicly engaged scholarship conducted by non-tenure track faculty?*
- *What other disciplinary and sub-disciplinary differences are apparent now (e.g., psych. vs. comm. psych., physical vs. cultural geography)?*



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