MOVING BEYOND SERVICE

How Engagement Impacts Faculty Productivity

MICHIGAN STATE UNIVERSITY

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Overview of Research

Faculty interaction with the public is often considered to negatively impact the promotion of university faculty. By drawing on social exchange theory, this study examines whether there is a relationship between the intensity of faculty engagement and faculty productivity (i.e., intellectual property).

Defining Engagement

Engagement is the connection of faculty scholarship with audiences external to higher education (Boyer, 1990, 1996).

- External audiences include the general public, communities, and the private sector
- Scholarship refers to the teaching, research, and service of faculty
- Engagement demands "reciprocal" and "mutually beneficial" relations between faculty and external entities (Weertz & Sandman, 2008)

Social Exchange Theory

Social exchange theory posits that individuals engage in relationships for the exchange value/benefits that accrue from those relationships (Blau, 1964; Takahashi, 2000).

- Benefits can be extrinsic (e.g. status, reputation) or intrinsic (e.g. happiness, personal satisfaction)
- Investment reflects an individual's estimation of the payoff (greater investment yields greater rewards)

The "Value" of Faculty Engagement

- Faculty involvement is typically explained by the intrinsic benefits faculty receive as a result of their engagement (Abe, Jackson, & Jones, 2002; Antonio, Astin, & Cress, 2000; Hammond, 1994)
- Little is known about how faculty engagement with external audiences relates to extrinsic rewards, particularly the generation of scholarship
- Based on social exchange theory, faculty with more intense relationships with external audiences should benefit more than those with less intense relations

Research Question

What factors influence the relationship between faculty engagement and faculty productivity?

Methods

Procedure and Data

- Data source was Michigan State University's institution-wide online survey, Outreach and Engagement Measurement Instrument (OEMI)
  - ~ Closed and open-ended questions
  - ~ Open-ended responses coded by two independent coders, with an interrater reliability of .80 or higher
- Data analyzed were collected January - March 2006
  - ~ Approximately 30% response rate
  - ~ 430 ranked faculty reporting a total of 803 projects
  - ~ Sample is representative of MSU faculty with regard to gender, race, and rank

Data Analysis

- Faculty productivity is conceptualized as the *number of intellectual properties* (e.g. publications, presentations, performances) produced
- Analysis conducted via hierarchical linear modeling (HLM), with projects nested in faculty

Basic Model

Intellectual property is modeled as a function of:

- Faculty characteristics:
  - ~ Demographics (race and gender)
  - ~ Academic (rank and discipline)
- Project characteristics:
  - ~ Type of engagement (research, teaching, service, combination)
  - ~ Intensity of relations (measured by length of project, level of collaboration, number of external partners and whether or not a project was funded)

Faculty Characteristics

Figure 1. Gender

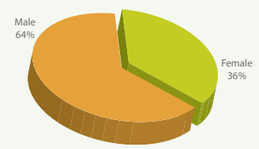


Figure 2. Race

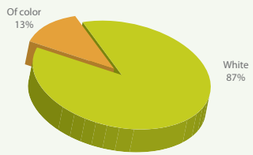


Figure 3. Academic Rank

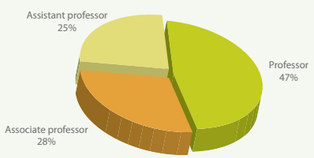
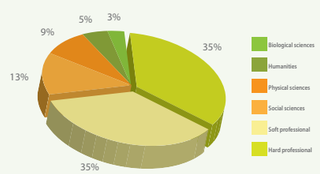


Figure 4. Discipline



Project Characteristics

Table 1. Frequencies of Project Level Variables

Type of Engagement	Frequency	Percent
Service	204	26.1
Teaching	314	40.2
Research	166	21.3
Research/teaching/service	97	12.4
Length of Project		
Multi-year	243	32.2
Ongoing	334	44.3
One time	177	23.5
Level of Collaboration		
High	152	18.9
Medium	205	25.5
Low	239	29.8
None	207	25.8
Number of Partners		
Multiple	352	43.9
One	247	30.8
None	202	25.2
Funding		
Some	610	76.0
None	193	24.0

Results

- Gender and race were not significant ($p>0.05$) and were, therefore, not included in the model
- Faculty academic rank, discipline and all indicators of intensity (i.e. collaboration, type of engagement, project length and funding) were statistically significant at $p<0.05$ or lower
- On average, assistant professors in the soft professions (e.g. education, business) involved in highly collaborative, multi-year research projects produced 2.7 intellectual properties
  - ~ Associate professors developed slightly more intellectual property (3); no differences were found among assistant and full professors
  - ~ Faculty in the biological sciences (biology, biochemistry) averaged less then 2 intellectual properties and those in the humanities (history, philosophy) generated 2.1 intellectual properties
  - ~ Service yielded fewer intellectual properties than research and teaching projects

Results (cont.)

Table 2. Hierarchical Linear Modeling Results

Fixed Effect		*Coefficient*	*Std Error*	*T-ratio*
Mean Intellectual Property				
Intercept	β_{00}	2.69***	0.19	13.93
Full professor	β_{01}	0.27	0.14	1.94
Associate professor	β_{02}	0.42**	0.15	2.75
Physical sciences	β_{03}	-0.04	0.21	-0.19
Biological sciences	β_{04}	-0.82 *	0.31	-2.62
Social sciences	β_{05}	-0.11	0.19	-0.58
Humanities	β_{06}	-0.50 *	0.25	-2.01
Hard professions	β_{07}	-0.10	0.13	-0.76
Length of Project				
Ongoing	β_{10}	-0.41***	0.11	-3.83
One-time	β_{20}	-0.78***	0.12	-6.31
Type of Engagement				
Service	β_{30}	-0.43**	0.13	-3.29
Teaching	β_{40}	-0.19	0.12	-1.53
Research/teaching/ service	β_{50}	0.25	0.15	1.60
Level of Collaboration				
None	β_{60}	-0.86***	0.14	-6.10
Low	β_{70}	-0.80***	0.13	-6.08
Medium	β_{80}	-0.55***	0.13	-4.37
Funding				
None	β_{90}	-0.36**	0.11	-3.36

Random Effect	*Variance*	*df*	*Chi-square*	*p-value*
Faculty mean	0.59	390	878.20	0.000
Level 1 effect	0.84			

***p<0.001, **p<0.01, *p<0.05

Conclusions

- Engagement benefits faculty productivity
- More intense relationships (multi year projects with high levels of collaboration) allow faculty to generate more scholarship
- When extrinsic benefits of engagement are examined, race and gender are not significant

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