

Program Array Comparisons with Selected Peer Universities as a Context for Planning (Revisited)

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plan for this talk

- Context – why this is a topic for study at my university, why it might be useful for you
- Methodology is the focus
- Findings provide illustration of principles, like a case study

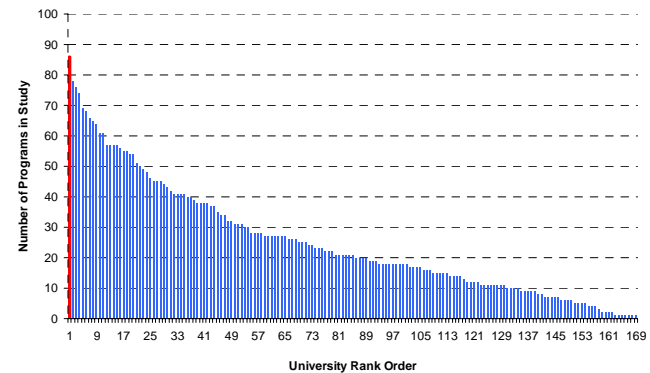
questions, comments welcome throughout

audience?

- public? private?
- large (>10K)? medium (1-10K)? small (<1K)?
- 2-yr? 4yr? Master's? PhD/prof?
- know a lot about CIP codes?

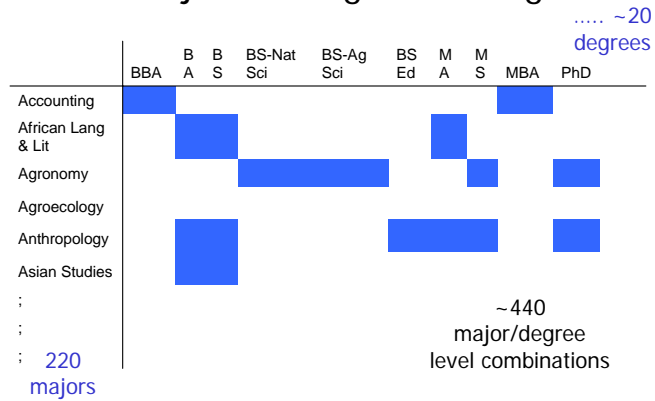
NRC Doctoral Review - Count of Programs

UW-Madison has 86 doctoral programs included in the NRC study, the most of any university. (169 of 221 universities reported programs as of 9/25/06.)



program array

– major and degree offerings



questions

- Is the program array “right”-sized?
- How are academic offerings distributed compared to peers?
- Have there been changes in discipline balance and distribution of program areas over time?
- Are there (new) policy implications of the findings?
- Is the methodology developed 10 years ago for making these peer comparisons still useful?

methodology

Define a peer group

Download IPEDS data sets

Calculate/tabulate rank order comparisons

Estimate distance to the peer average

Other analysis of the data set as interest dictates

peer group

in general,

- Define a peer group
- Shared characteristics
- size, enrollment
 - control
 - mission, focus

UW-Madison,

- Faculty salary peer group
- Shared characteristics
- large
 - public
 - research (doctoral)
 - all AAU
 - Carnegie “Research I”

data sources

IPEDS Degree Completions

- 2002-03, 2003-04

- By CIP, level

IPEDS Enrollment

- Fall 2003, Fall 2004, Fall 2005

- total

IPEDS Fall Staff

- 2003, 2004, 2005

- total

retrieved from

IPEDS using Peer
Analysis System

Peer group data
exchange (AAUDE)

degree levels

- bachelor's
- master's
- doctoral/PhD
- first professional – Law, MD, DVM, PharmD, MPT
- other levels reported by some peers, excluded from this study

CIP codes

Framework of this study uses Classification
of Instructional Programs

Assumptions and interpretations key to
usefulness and limits of the analysis

CIP2000 implementation – discontinuities,
more changes proposed to eliminate first-
professional as a separate level

CIP codes

09. Communication, Journalism, and Related Programs

09.01 Communication and Media Studies

09.01.01 Communication Studies/Speech Comm and Rhetoric

09.01.02 Mass Communication/Media Studies

09.01.99 Communication and Media Studies, Other

09.04 Journalism

09.04.01 Journalism

09.04.02 Broadcast Journalism

09.04.04 Photojournalism

09.09.99 Journalism, Other

And so on.....

- Nested hierarchy
- Three functional levels
- 2-digit category
- 4-digit grouping
- 6-digit program areas

CIP codes

09. Communication, Journalism, and Related Programs

09.01 Communication and Media Studies
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09.04 Journalism

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 09.04.02 Broadcast Journalism
 09.04.04 Photojournalism
 09.09.99 Journalism, Other

And so on.....

Category
 (discipline breadth)

Program area
 (number of programs, how finely divided)

CIP codes

UW-Madison degree majors

CIP

Ag Journalism (BS)	-----	01.08.02
Communication Arts (BA, MA, PhD)	-----	09.01.01
Family and Consumer Journalism (BS, MS)	-----	19.02.02
Journalism (BA)	-----	09.04.01
Journalism and Mass Communication (MA)	-----	09.04.01
Life Sciences Communication (MS)	-----	09.01.02
Mass Communication (PhD)	-----	09.01.02

7 major degree programs

CIP codes

UW-Madison degree majors

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7 major degree programs

3 categories

CIP codes

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7 major degree programs

- 3 categories

- 5 program areas

CIP codes

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7 major degree programs - 3 categories
- 5 program areas
- 3 "09" program areas

CIP codes

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many-to-many
relationship forced to be
many-to-one

advantages

- Simple, both conceptually and in-practice
- Rank order comparisons over time despite changes in IPEDS collections
- Can be used with a variety of peer groups
- Makes use of a publicly available data source
- Focused on program array, not academic units

limits/disadvantages

- Comparability and quality of the IPEDS data
- Changes in IPEDS collections –e.g. student credit hours
- Institutional differences in applying the IPEDS reporting guidelines, especially in use of CIP codes

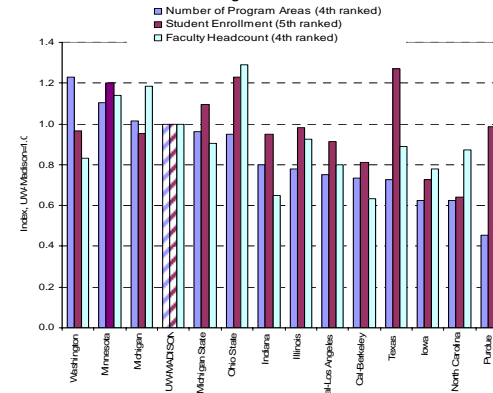
results

Lots of tables of data

Lots of ways to display it

Simplification helps

Appendix A. Peer Comparisons on Selected Measures Indexed to UW-Madison as 1.00, Sorted by Number of Program Areas



Degrees counts are from the IPEDS Degree Completions Survey (average of 2003 and 2004). Number of program areas is count of total program areas in which any degrees are awarded at the bachelors, masters, doctoral or first-professional levels in 2003 and 2004. Enrollments are from IPEDS Fall Enrollment Survey and averaged for 2003 and 2004. Faculty counts are taken from the IPEDS Fall Staff Survey and averaged over 2003, 2004, 2005.

6-digit program areas

Measure of number of programs offered.

Rank order, distance to peer group average:

- Number of program areas
- Degrees by level
- Degrees by program area (calculated ratio)
- Enrollment
- Faculty

Summary of Program Area Comparisons

Metric	UW-Madison's Rank in Group (n=14)		
	2006 Study	1996 Study	
Number of Program Areas	Total	4 nd	2 nd
	Bachelor's	4 rd	3 rd
	Master's	2 nd	2 nd
	PhD	1 st	1 st
	1 st Professional	nr	nr

Metric		UW-Madison's Rank in Group (n=14)	
		2006 Study	1996 Study
Number of Program Areas	Total	4 th	2 nd
	Bachelor's	4 th	3 rd
	Master's	2 nd	2 nd
	PhD	1 st	1 st
	1 st Professional	nr	--
Degrees Awarded	Total	10 th	5 th
	Bachelor's	8 th	4 th
	Master's	8 th	7 th
	PhD	3 rd	3 rd
	1 st Professional	5 th	6 th
Degrees per Program Area	Total	12 th	--
	Bachelor's	12 th	12 th
	Master's	14 th	12 th
	Doctoral	9 th	8 th
	1 st Professional	7 th	--

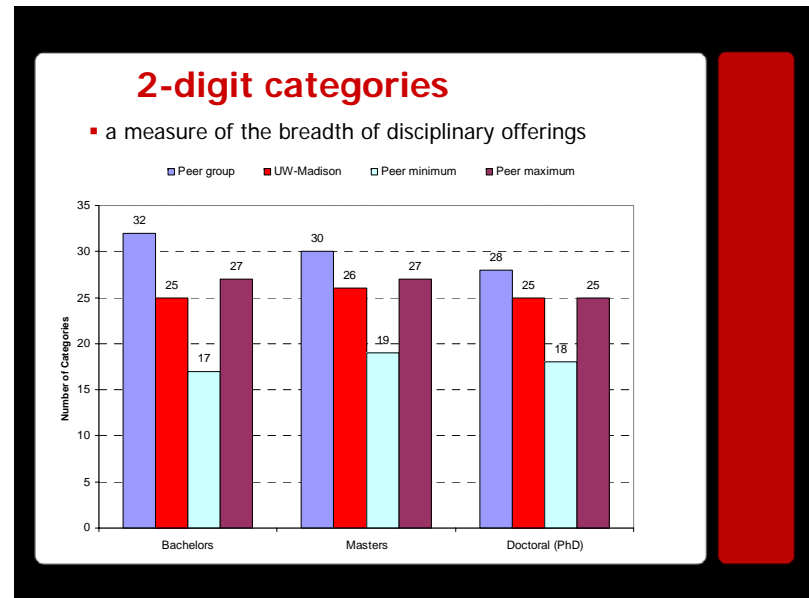
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Degrees per Program Area	Total	12 th	--
	Bachelor's	12 th	12 th
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	1 st Professional	7 th	--

sample findings

UW-Madison has more program areas than peers – more finely divided

UW-Madison has few degrees per program area than peers – lower density

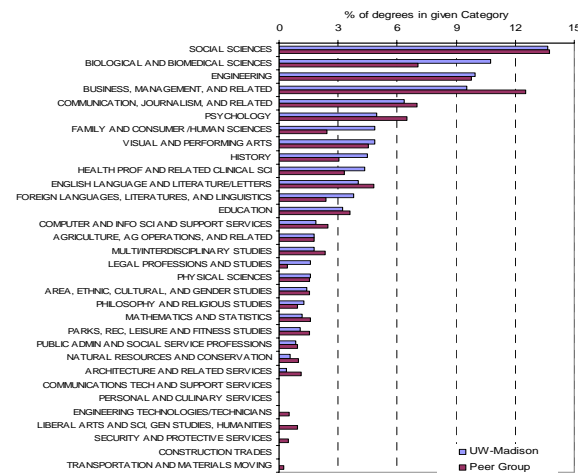
Some shift at the bachelor's level, not much at graduate level.



Appendix F.1. Number of Program Areas in Which Degrees were Awarded in 2004 by Category - BACHELOR'S DEGREES

CIP Category Title (2-digit CIP)	Institution														Peer Group
	Cal. Berkeley	Cal. Los Angeles	Brno	Indiana	Iowa	Michigan State	Minnesota	North Carolina	Ohio State	Purdue	Texas	Urbach	Urbach	Urbach	
01. AGRICULTURE, AG OPERATIONS, AND RELATED			8			8	8		7	7			10	5	
03. NATURAL RESOURCES AND CONSERVATION	6	2	1	1	3	5	3	2	6	3		8	2	11	
04. ARCHITECTURE AND RELATED SERVICES	2	3			1	2	2		2	1	1	3	1	3	
05. AREA, ETHNIC, CULTURAL, AND GENDER STUDIES	10	13	3	3	5	8	2	6	7	2	1	6	9	6	
09. COMMUNICATION, JOURNALISM, AND RELATED	1	4	8	2	1	4	2	2	3	1	6	8	2	11	
10. COMMUNICATIONS TECH AND SUPPORT SERVICES			1											1	
11. COMPUTER AND INFO SCI AND SUPPORT SERVICES	1	1	1	1	1	1	2	2	1	2	1	2	1	10	
12. PERSONAL AND CULINARY SERVICES		1				1								3	
13. EDUCATION	1	7	20	3	4	5	7	4	11	6		3	7	11	
14. ENGINEERING	11	9	14	6	13	10	10		12	12	2	13	13	11	
15. ENGINEERING TECHNOLOGIES/TECHNICIANS										1	6			2	
16. FOREIGN LANGUAGES, LITERATURES, AND LINGUISTICS	15	16	3	9	9	11	2	14	6	16	10	10	16	15	
19. FAMILY AND CONSUMER HUMAN SCIENCES			1			1	5	1	3	4		5		15	
22. LEGAL PROFESSIONS AND STUDIES	1					1			1	1	3	2	1	2	
23. ENGLISH LANGUAGE AND LITERATURE/LETTERS	2	2	3	1	1	3	1	2	1	1	1	2	1	13	
24. LIBERAL ARTS AND SCI. GEN STUDIES, HUMANITIES	1	2	1	1	2	1		1	1	1	2	2	1	11	
26. BIOLOGICAL AND BIOMEDICAL SCIENCES	5	9	10	3	3	5	9	8	2	8	4	7	10	13	
27. MATHEMATICS AND STATISTICS	3	4	3	1	2	2	2	2	2	1	2	1	5	3	
30. MULTIDISCIPLINARY STUDIES	5	4	1	2	3	3	5	3	1	2	2	3	3	10	
31. PARKS, REC, LEISURE AND FITNESS STUDIES	2	2	1	3	2	2	4	2	1		2		2	3	
33. PHILOSOPHY AND RELIGIOUS STUDIES	2	3	2	3	2	2	2	3	2	3	1	2	3	10	
40. PHYSICAL SCIENCES	6	6	4	4	4	7	5	5	4	4	3	7	7	8	
42. PSYCHOLOGY	1	2	2	1	1	2	1	2	1	1	1	1	1	13	
43. SECURITY AND PROTECTIVE SERVICES			1			1								3	
44. PUBLIC ADMIN AND SOCIAL SERVICE PROFESSIONS	1			1				1	1		1		1	8	
45. SOCIAL SCIENCES	7	8	6	7	5	6	8	10	5	7	4	2	7	6	
46. CONSTRUCTION TRADES							1							1	
49. TRANSPORTATION AND MATERIALS MOVING							1							2	
50. VISUAL AND PERFORMING ARTS	6	10	14	9	6	22	9	10	6	11	3	11	10	7	
51. HEALTH PROF AND RELATED CLINICAL SCI	1	1	3	3	6	4	7	7	6	12	6	4	6	7	
52. BUSINESS, MANAGEMENT, AND RELATED	1	1	5	2	7	2	8	11	2	15	4	6	7	10	
54. HISTORY	1	1	1	1	1	1	1	1	1	2	1	3	2	11	
Count of Categories at Each Institution	22	17	25	24	22	22	27	25	22	27	25	22	23	25	
Total Number of Program Areas	87	91	112	80	73	106	113	129	80	132	79	92	126	127	

Appendix F.3. Percent of Bachelor's Degrees Awarded by Category, 2004



sample findings

Bachelor's level – top five categories:

- social sciences (13.6%),
- biological sciences (10.7%)*,
- engineering (9.9%),
- business (9.5%)*,
- communication etc (6.4%).

*For biological sciences

- peer average is lower - 7.0%
- UW-Madison has 12 program areas; range is 2 to 12
-

*For business

- peer average is higher – 12.5%
- UW-Madison has 10 program areas; range is 1 to 15

sample findings

Doctoral level – top five categories:

- biological sciences (18.1%)*,
- engineering (16.8%),
- physical sciences (10.9%),
- education (9.9%),
- social sciences (8.5%).

*For biological sciences:

- 18.1% is higher than the peer average of 12.9%
- UW-Madison has 18 program areas; range is 4 to 18
- Only UNC (23.8%) and UCLA (18.6%) award a higher fraction of PhDs in the biological sciences category

so what?

Low-enrollment program policy considerations

Growth considerations – emphasize strengths? rebalance?

Is a finely-divided program array with more than average programs across broad disciplines a good thing?

low-enrollment

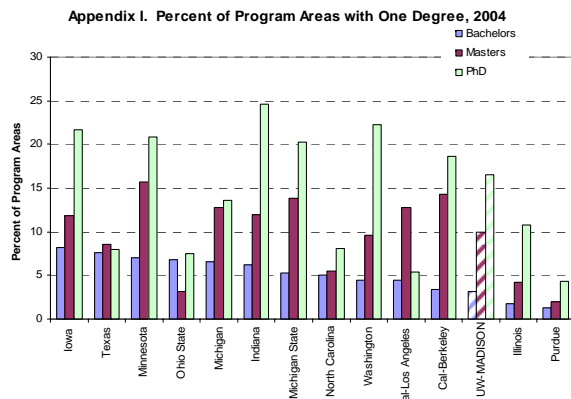
1994 – new policy for extra scrutiny of low-enrollment majors (<5 degrees in 5 years)

Integrated into program review – annual exchange of information with the deans

Over the past 20 years, and mostly within the past 12 years:

- implemented 17 new major programs
- deleted 44 major programs
- several consolidations
- net decrease of 41 major programs

low-enrollment



low-enrollment

Table 4. Percent of Program Areas That Award One Degree

Degree Level	Percent of UW-Madison Programs	Percent of Peers (Average)	UW-Madison Rank for Program Areas with One Degree	UW-Madison Rank for All Program Areas
Bachelor's	3.1	5.3	12	4
Master's	9.9	10.2	8	2
Doctoral	16.5	14.8	7	1

Source: IPEDS Degree Completions, 2004.

summary points

- 1996 methodology is still useful and can highlight changes or stability in program array with a variety of peer groups.
- UW-Madison awards degrees in more program areas and awards fewer degrees per program area than the peer group despite a decade of efforts to eliminate low-enrollment majors.
- Program areas and category tabulations provide detail for probing specific disciplines.
- Overall, this analytical approach provides a quantitative overview of the disciplinary balance in comparison with a group of peer institutions. The analysis provides a starting point for more detailed examination of specific policy and planning questions.

Program Array At UW-Madison

<http://www.apa.wisc.edu/programarray.htm>

This analysis is based on a methodology devised by Martha Casey as described in 1996 AIR and SCUP presentations. Clare Huhn for assistance with extracting data sets from the IPEDS Peer Analysis System. Thanks to Bruce Beck and Clare Huhn for helpful comments and review.

