

Growth or Decline? A Longitudinal Analysis of Factors Affecting the Institutional Trajectories of Five Design Disciplines in the United States*

Abstract Apart from a handful of studies that utilize longitudinal data, our knowledge is very limited regarding how large-scale disciplinary change occurs. This knowledge gap is even more glaring for design disciplines, despite their increasing significance. This article longitudinally analyzes the extra- and intra-institutional factors that affect the growth of undergraduate education in five major design disciplines in the United States between 1988 and 2012. These five disciplines are architecture, landscape architecture, urban/city/community and regional planning, industrial design, and interior design. To do so, it combines data from the US Integrated Postsecondary Education Data Survey (IPEDS) with state-level data from the US Census and US Department of Labor Statistics. Results from a series of analyses using lagged random effects models show that despite unique disciplinary histories, individual factors such as interdependencies between different fields, the size of institutions, and the increasing campus presence of women play a common role in the growth of five design disciplines in the United States.

Keywords

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Introduction

Design is gaining renewed prominence globally.¹ Buchanan calls design a “new liberal art of technological culture,” an integrative field with a potential to build novel and holistic connections among the over fragmented arts and sciences disciplines.² Despite their significance, however, our knowledge regarding the position of design disciplines within the higher education system is rather insufficient. Far from providing a holistic picture of the development of design in the US Higher Education, the research in the extant literature is limited to historical and isolated case studies.³ This article aims to fill a small part of this gap. It employs longitudinal data that combines US Integrated Postsecondary Education Data Survey⁴ (IPEDS) gathered between 1988 and 2012 with state-level economic and demographic information to analyze the growth of undergraduate degree production in five major design disciplines at four-year colleges and universities in the United States. These five disciplines are architecture, landscape architecture, urban/city/community and regional planning (henceforth, urban planning), industrial design, and interior design.

Higher education scholars have emphasized the rising importance and expansion of applied/professional fields in the United States, especially after the 1980s.⁵ Concurrent with this transformation, concepts of innovation and entrepreneurship have also come to the fore both within and outside universities.⁶ Debates on the future and competitiveness of the US economy increasingly involve innovation policy.⁷ Despite these trends, there are very few – if any – empirical, large-scale studies analyzing applied disciplines in terms of the sociology of higher education.⁸ We do not know where and under which institutional conditions these fields are growing. Design is not only an applied field – with its emphasis on creativity, innovation and entrepreneurial tendencies, it has a central importance in these discussions. As such, understanding design’s position within the US higher education system will contribute to these larger debates. Thus, this study has relevance beyond its immediate audience of design researchers by making a contribution to the sociology of higher education.

The notion of an academic discipline naturally entails much more than the purveyance of undergraduate education. So what justifies my emphasis on bachelor’s degree production? In the US context, “the most consequential single disciplinary structure – in terms of extent and impact – is not the professional association but the college major.”⁹ With a few exceptions, all US universities use the major system, and it is typically the majors that dictate “faculty governance and administration.”¹⁰ That is, a majority of colleges and universities use undergraduate student enrollment figures as a decisive factor when allocating critical resources such as departmental funding and faculty positions.¹¹ The fate of disciplines in the United States, then, is inherently tied to undergraduate education.

Contemporary design knowledge encompasses a much larger domain than that demarcated by the traditional design disciplines of architecture, landscape architecture, urban planning, industrial design, and interior design.¹² So why focus on these five at the expense of others? There are two interrelated issues at stake here. The first stems from the structure of IPEDS data and how it codes different academic fields. For example, the growth of engineering design as a discipline is impossible to trace using this dataset. IPEDS does have distinct field codes for a variety of engineering disciplines; however, not every department/program in a given engineering field is design-oriented. It is impossible to delineate engineering design from other forms of engineering with this data. Relatively younger design disciplines pose another difficult problem, because long-term, robust data is not available. Vibrant fields such as communication design, service design, human computer interaction (HCI) and interaction design are either not coded in IPEDS

1 Kees Dorst, “Frame Creation and Design in the Expanded Field,” *She Ji: The Journal of Design, Economics, and Innovation* 1, no. 1 (2015): 22–33, DOI: <https://doi.org/10.1016/j.sheji.2015.07.003>.

2 Richard Buchanan, “Wicked Problems in Design Thinking,” *Design Issues* 8, no. 2 (1992): 6.

3 For some examples in this vein, see Anthony Alofsin, *The Struggle for Modernism: Architecture, Landscape Architecture, and City Planning at Harvard* (New York: W.W. Norton & Company, 2002); Arthur J. Pulos, *The American Design Adventure, 1940–1975* (Cambridge, MA: MIT Press, 1988); Norman T. Newton, *Design on the Land: The Development of Landscape Architecture* (Cambridge, MA: Belknap Press of Harvard University Press, 1971); Jon A. Peterson, *The Birth of City Planning in the United States, 1840–1917* (Baltimore: The Johns Hopkins University Press, 2003).

4 US Department of Education, Institute of Education Sciences, National Center for Education Statistics Integrated Postsecondary Education Data Survey (IPEDS): Institutional Characteristics, Completions, Fall Enrollment, and Finance Components, 1988–2012.

5 Steven G. Brint, “The Rise of the ‘Practical Arts,’” in *The Future of the City of Intellect: The Changing American University*, ed. Steven G. Brint (Stanford: Stanford University Press, 2002), 231–59.

6 *Ibid.*, 231–32.

7 Fareed Zakaria, “The Future of Innovation: Can America Keep Pace?,” *Time*, June 5, 2011, <http://www.time.com/time/nation/article/0,8599,2075226,00.html>.

8 Existing longitudinal studies typically focus on the social sciences and humanities. For example, see Steven G. Brint, Lori Turk-Bicakci, Kristopher Proctor, and Scott P. Murphy, “Expanding the Social Frame of Knowledge: Interdisciplinary, Degree-Granting Fields in American Colleges and Universities, 1975–2000,” *The Review of Higher Education* 32, no. 2 (2009): 155–83; Steven G. Brint et al., “Declining Academic Fields in U.S. Four-Year Colleges

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