



Research paper

Research productivity and utilization in landscape architecture

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HIGHLIGHTS

- This study surveyed all landscape architecture faculty in North America.
- Asked about their research productivity and results were compared to a 1998 study.
- Research productivity had increased in all categories, most notably in refereed journal article publication.
- Research topics of faculty were compared with topics that professionals considered important.
- None of the five most researched topics matched any of the five topics that professionals would find valuable.

ARTICLE INFO

Article history:

Received 6 April 2015

Received in revised form 3 November 2015

Accepted 14 November 2015

Keywords:

Survey
CELA
Refereed
Trend
Research
Productivity
Landscape architecture

ABSTRACT

This study examined research productivity of landscape architecture faculty at North American universities and compared them with the results of a 1998 study. A questionnaire was mailed to all 457 individuals listed by the Council of Educators in Landscape Architecture (CELA) as assistant professors, associate professors, and professors. Results indicated that productivity has increased in all categories. The average number of refereed journal articles had nearly doubled from 0.48 to 0.93 per faculty member. Publication of conference papers had almost trebled when compared with the 1998 study, from 0.87 to 2.25 per faculty member per year. In addition the number of respondents with PhD degrees increased by almost 15% to 42%. Despite increased productivity, the research tends to focus on topics of limited interest to practicing professionals. None of the top five research topics regularly used by professionals nor the top five areas where they thought more research would be valuable was in the top five topics researched by CELA members. In addition, only about 50% of professionals think that research is applicable to practice compared to about 90% of CELA members.

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1. Introduction

Landscape architecture first emerged as a profession in the late 19th century, and by the early 20th century in the United States landscape architectural practice was rooted in the traditions of garden design, town planning, and social work (Sies & Silver, 1996). As the profession separated first from social work and its moral imperative, and then from town planning, with its focus on large scale design and planning, it evolved to focus on estates, public open spaces, and related landscapes, with a focus primarily on aesthetics (Simo, 1999; Zube, 1998) and secondarily on improving the common man (Cranz & Boland, 2004). As a profession, it developed a common approach to solving [design] problems (which has evolved over time but remains largely intact) (Milburn & Brown,

2003a,b), a required skill set, and a set of values, which are characteristics that unite the members of a professional group (Freidson, 1994).

By 1981 the profession was defined by the ASLA as . . . “The art of design, planning and management of natural and man-made elements thereon through application of cultural and scientific knowledge” (Marshall, 1981), inextricably linking design and scientific knowledge (Rodiek, 2006). While this definition clearly demands relevant research for use in problem solving and design, landscape architects continue to struggle to distinguish a distinct body of knowledge that effectively informs practice in the profession (Fein, 1972; Miller, 1997; Milburn, Brown, & Paine, 2001), though the Landscape Architecture Body of Knowledge (LABOK) study, developed by six of the profession’s organizations, attempts to do so for the purposes of licensure. Swaffield (2002) argues that landscape architecture fulfills the criteria for a “minor profession” according to Pavalko (1988). Major professions (such as law, medicine or engineering) are differentiated by practice that involves clearly defined objectives (Glazer, 1974), while minor

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professions address conditions that are difficult to quantify, predict, or differentiate into separate components (Miller, 1997), and as such, are resistant to ongoing rigorous study resulting in a clearly understood body of knowledge.

This challenge has resulted in a body of scholarship related to the profession that is dominated by integrative and applied scholarship (such as the Scholarship of Engagement, Rottle, 2005) and the scholarship of teaching (and learning [SoTL]) (see Boyer, 1990). While these types of scholarship are increasingly valued and accepted as a valid contribution to the scholarly canon, universities continue to value them less than the traditional “scholarship of discovery” (Boyer, 1990; Rodiek, 2006; Swaffield, 2002). Ironically, Milburn and Brown (2003a,b) found that chairs of landscape architecture programs felt that prestige and status was associated with quality of teaching, and that 50% of professionals with whom they had contact felt it was important for LA faculty to do research, but 33% had no opinion, and 16.7% disagreed or strongly disagreed. As late as 1999, surveys suggested that landscape architecture practice involves the application of existing knowledge and that research is superfluous to everyday professional practice (Trombley, 1984; Shibley, 1986; Rugarcia, 1991; Milburn, 1999). Research is seen as an academic requirement unrelated to practical application and problem-solving. According to Chen (2013, p. 7), “Action-based knowledge directly guides professional actions, while cognition-based knowledge offers explanations and justifications for these actions. The explanations generated from cognition-based knowledge often define the prestige of a modern profession.” As such, action-based knowledge tells professionals what to do and where, and cognition-based knowledge answers why, ensuring a profession is able to articulate, explain and demonstrate the rationale for their solutions.

Milburn et al. (2001) research found that the profession was not just divided along professional and academic lines. Faculty themselves demonstrated a discrepancy between their own research attitudes and behaviors. The theory of cognitive consistency (Fishbein & Ajzen, 1975; Ajzen, 1989) would suggest that faculty would try to moderate the differences between their attitudes and behaviors over time and reduce the dissonance between the two. In light of this, the results of Milburn’s (1999) study would suggest that the subjective norm of the discipline will alter to reflect a more favorable attitude toward the activities of scholarship in general and research in particular. A comparison of Milburn’s (1999) and Chenoweth and Chidister’s (1983) study provides evidence that the attitudes of department chairs and faculty colleagues had become more supportive of research activities over the 16 years between the studies.

The literature argues that, in general, age and gender are not predictors of faculty research productivity (Lawrence & Blackburn, 1988; Shim, O’Neal, & Rabolt 1998). Yoakum (1993) found that tenure status and higher academic rank directly relate to research productivity. Long (1978) identified the importance of department location or school and university prestige. In spite of this, Milburn and Brown’s (2003a,b) study of landscape architecture educators found a significant negative relationship between age and number of presentations, and a positive relationship between level of education (e.g. bachelor’s, master’s, Ph.D., etc.) and number of papers published, as well as number of presentations. Comparing the results of their 2003 study with Chenoweth and Chidister’s (1983) study led them to suggest that the conflict between their research and the literature may have been because the research culture in landscape architecture had recently changed because of a shift in expectations as articulated by universities, administrators and/or other faculty, and as a result the studied group of educators was responding to this positive environment with higher research productivity.

Milburn et al. (2001) reported an average publication rate of refereed articles of 0.48 per faculty member using a self-reporting format. Gobster, Nassauer, and Nadiencek (2010) evaluated scholarship in landscape architecture using two online journal databases (Scopus and Avery Index). They sampled full-time faculty at research-oriented schools in North America and identified their rates of peer-review publication in *Landscape Journal* and other refereed journals. They identified an average of 2.8 peer reviewed articles over 10 years, or less than one article every three years (Gobster et al., 2010).

They found that only 6% of their study members averaged one or more articles per year over the ten year period and 20% published an average of only one article per ten years. Forty-six percent of their study group of landscape architecture faculty did not publish any peer-reviewed articles (Gobster et al., 2010). As such, their study results were substantially lower than the Milburn and Brown (2003a,b) study, though when they used a database that was more broadly inclusive of academic articles beyond peer-review, their numbers were more similar (0.40 per year). Milburn and Brown’s (2003a,b) self-reported numbers of the population, while not reflective of a sampling process, may be an over-estimate of peer-reviewed publication perhaps as a result of unconscious attempts to address cognitive dissonance effects related to research attitudes/behaviors and acculturation expectations. This study repeats that earlier study with the addition of some questions suggested by the literature and changes in the discipline, in order to allow for a longitudinal comparison.

Christenson and Michael (2014) examined landscape architecture faculty scholarly productivity using direct content analysis of the curriculum vitas of 18 landscape architecture faculty members who were recently awarded tenure, which included two people they identified as “outliers”. Their yearly mean productivity for grants pre-tenure was \$101,670 and post-tenure was \$86,299 (\$57,485 and \$26,260 excluding outliers). Annual peer reviewed journal article averages were 0.6 pre-tenure and 1.19 post tenure (0.4 and 0.35 excluding outliers). Peer reviewed conference proceedings were 0.5 and 0.71, respectively (0.3 and 0.29 excluding outliers). Books were 0.06 for both pre- and post-tenure periods, and design competitions were 0.05 pre-tenure and 0.03 post-tenure (the same without the outliers).

Chen (2013) investigated the perception of, need for and use of research in landscape architectural practice using an online survey sent to a sample of ASLA members. This study reported the following mean annual productivity numbers: refereed journal articles = 0.51, professional magazine articles = 0.43, conference presentations with paper = 0.67, conference presentations without paper = 0.70, books and monograph = -0.16, book chapters = 0.27 all of which are higher than both Milburn and Brown (2003a,b) and Gobster et al. (2010) reported.

Given that each study used different methods it is unclear if there is a trend in faculty productivity. To more clearly answer this question the Milburn and Brown (2003a,b) study was repeated with the same population and the same questions. The goal of this study, then, was to identify whether research productivity of landscape architecture faculty in North America had changed over the past 15 years. A secondary goal was to compare research topics studied by landscape architecture faculty with the research needs identified by practicing professionals.

2. Methods

2.1. Questionnaire

A self-administered questionnaire based on the Dillman (1978, 2000) Total Design Method was mailed to all assistant, associate

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